

From: gb-admin@ncbi.nlm.nih.gov  
Date: Thu, 07 Nov 2019 17:22:18 -0500 (EST)  
To: huben@wh.iov.cn  
Bcc: Mizrachi@ncbi.nlm.nih.gov  
Subject: GenBank MN312240-MN312869  
X-Mailer: Smart

Dear GenBank Submitter:

Thank you for your submission.

Based on the data submitted to us, the scheduled release date for your submission is:

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However, if the accession number is published prior to that date, the sequence will be released upon publication.

Note that the entire sequence will be released when the article citing this accession number is published or on the above release date, whichever comes first. If this is not what you intended, please notify us immediately so that we can discuss your submission in more detail.

If this date is not correct, please let us know as soon as possible, otherwise this submission will be released on the date indicated above. The data will become available from our different servers within a few days of release. The data are simultaneously made available to ENA in Europe and the DNA Data Bank of Japan.

Changes may have been made to your original submission in order to conform to database annotation conventions including:

- Strings of N's, low quality sequence, vector or linker trimmed from ends
- Feature spans corrected and descriptions modified for all feature types including coding regions
- Nomenclature edited to 'official' gene names, product labels, etc.
- Exon spans adjusted to conform to the splice donor/acceptor consensus sequences, GT and AG, respectively
- Any mRNA or ribosomal RNA sequences submitted on the minus-strand have been reverse-complemented
- Taxonomic and source data edited, including unpublished organism names changed to temporary names. Please notify us when the organism names are published and we will update them accordingly.

If your submission needs revision, do not submit a new sequence. Instead, please follow the directions to update a sequence record at:  
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record is a display format only and is not an editable format of the data, do not make changes directly to a flatfile. Send properly formatted updates to: [gb-admin@ncbi.nlm.nih.gov](mailto:gb-admin@ncbi.nlm.nih.gov)

An accession number has been assigned to each nucleotide sequence and was previously provided to you. Note that during the processing, we have assigned protein identifiers to any proteins within the submission. This is fielded as /protein\_id.

We strongly recommend that these numbers appear in any publication which reports or discusses these data, so that readers may easily retrieve your data from our databases.

Please reply using the current Subject line.

Sincerely,

Ilene Mizrachi, PhD  
GenBank Direct Submission Staff  
[gb-admin@ncbi.nlm.nih.gov](mailto:gb-admin@ncbi.nlm.nih.gov)

GenBank flat file:

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LOCUS      MN312240          359 bp  RNA  linear  VRL 07-NOV-2019
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6300 RNA-dependent RNA
            polymerase (RdRp) gene, partial cds.
ACCESSION  MN312240
VERSION    MN312240
KEYWORDS   .
SOURCE     Rhinolophus bat coronavirus HKU2
ORGANISM   Rhinolophus bat coronavirus HKU2
            Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;
            Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.
REFERENCE  1 (bases 1 to 359)
AUTHORS    Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,
            Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.
TITLE      Origin and cross-species transmission of bat coronaviruses in China
JOURNAL    Unpublished
REFERENCE  2 (bases 1 to 359)
AUTHORS    Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,
            Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.
TITLE      Direct Submission
JOURNAL    Submitted (13-AUG-2019) Key laboratory of special pathogens and
            biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of
            Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China
FEATURES   Location/Qualifiers
            source          1..359
                        /organism="Rhinolophus bat coronavirus HKU2"
                        /mol_type="genomic RNA"
                        /isolate="6300"
                        /host="Hipposideros armiger"
                        /db_xref="taxon:693998"
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/gene="RdRp"  
CDS <1..>359  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87860"  
/translation="CDRAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNE  
VVHNSGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKL  
QRSIYDNCYRSSAVDDAV"

ORIGIN

1 tgtgatagag ctatgcctag tatgatacgt atgcttgctg ctatggttct tggatctaag  
61 cacgttacat gttgtacaga cagtgatagg tttacagac ttctaacga acttgcgcaa  
121 gttctaatg aggttgtgca ttctaagga ggttttatg taaacctgg tggcactaca  
181 tcaggtgatg ctacaactgc ttatgcaaat tctgtttta acatctttca ggcagttagc  
241 ttaacatta acaggcttct ttctgttgat agtaatgtgt gtaacaactt gtatgtcaaa  
301 aagcttcagc gctctatcta tgacaattgt tataggtcta gtgctgttga tgacgctgt

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LOCUS MN312241 400 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6332 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312241

VERSION MN312241

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 400)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 400)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..400  
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/mol\_type="genomic RNA"  
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/country="China"  
gene <1..>400  
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CDS <1..>400  
/gene="RdRp"  
/codon\_start=2

/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87861"  
/translation="RAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEVI  
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SIYDNCYRSSAVDDNVVTEFYNYLKKHFSMM"

ORIGIN

1 tagagctatg cctagatga tccgcatgct tgctgctatg gttcttggat caaagcatgt  
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121 taatgaggtt atacattcca atggaggttt ttatgtaaaa cccggtggca ctacatcagg  
181 tgatgctaca actgcttatg caaactctgt cttaaatatt ttccaggcag ttagtctaa  
241 cattaataga cttctttctg ttgatagtaa tgtgtgtaac aatttatatg taaaaaagct  
301 tcagcgctct atctatgata attgttatag atctagtgtct gttgatgaca atgttggtac  
361 agaattttat aactatctta agaagcattt ctctatgatg

//

LOCUS MN312242 406 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6333 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312242

VERSION MN312242

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..406

/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="6333"  
/host="Rhinolophus sp."  
/db\_xref="taxon:693998"  
/country="China"

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/gene="RdRp"

CDS <1..>406  
/gene="RdRp"

/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87862"  
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VVHSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKL  
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## ORIGIN

1 tgtgatag ctatgcctag tatgatccgc atgcttgctg ctatggttct tggatcaaag  
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181 tcaggatgat ctacaactgc ttatgcaaac tctgtctta atatttcca ggcagtttagc  
241 tctaatatta atagacttct ttctgttgat agtaatgtgt gtaacaattt atatgtaaaa  
301 aagcttcagc gctctatcta tgataattgt tatagatcta gtgctgttga tgacaatgtt  
361 gttacagaat ttataacta tcttaagaag catttctcta tgatga

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LOCUS MN312243 413 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6334 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312243

VERSION MN312243

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 413)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 413)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..413

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="6334"

/host="Rhinolophus sp."

/db\_xref="taxon:693998"

/country="China"

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/gene="RdRp"

CDS <1..>413

/gene="RdRp"

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/product="RNA-dependent RNA polymerase"

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## ORIGIN

1 taaatgtgat agagctatgc ctagtatgat ccgcatgctt gctgctatgg ttcttgatc  
61 aaagcatgtt acatgttgta cagacagtga taggtttac agactttcta atgaacttgc  
121 acaagtctt aatgaggta tacattccaa tggaggtttt tatgtaaac ccggtggcac  
181 tacatcaggt gatgctacaa ctgcttatgc aaactctgtc ttaaatatt tccaggcagt

241 tagctctaac attaatagac ttcttctgt tgatagtaat gtgtgtaaca atttatatgt  
301 aaaaaagctt cagcgtccta tctatgataa ttgttataga tctagtgtg ttgatgacaa  
361 tgtgtgtaca gaattttata actatcttaa gaagcatttc tctatgatga ttt

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LOCUS MN312244 406 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 6340 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312244

VERSION MN312244

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..406

/organism="Bat coronavirus 1"

/mol\_type="genomic RNA"

/isolate="6340"

/host="unknown"

/db\_xref="taxon:2042696"

/country="China"

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/gene="RdRp"

CDS <1..>406

/gene="RdRp"

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/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87864"

/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE

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ORIGIN

1 tgtgatagag cattgcctaa tatgatccgt atgatatccg ccatgatttt gggttctaag  
61 catgagaatt gttgactaa ctctgaccgt tattatagac tatgcaacga gttggtctaa  
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241 gctaacatta atcgcatttt gggcgtaaat agcaatactt gcaataactt aacagttaaa  
301 agtttgacg gctctttgta tgacaattgt tatcgcaacta gtactgtgga ccctgccttt  
361 gtagacacat tttatgggta cttacgcaaa catttcteta tgatga

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LOCUS MN312245 403 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6343 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312245

VERSION MN312245

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 403)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 403)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..403

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="6343"

/host="Rhinolophus sp."

/db\_xref="taxon:693998"

/country="China"

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CDS <1..>403

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/protein\_id="QGA87865"

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RSIYDNCYRSSAVDDNVVTEFYNYLKKHFSMM"

ORIGIN

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121 tcttaatgag gttgtacatt ccaatggagg tttttatgta aaaccgggtg gcactacatc

181 aggtgatgct acaactgctt atgcaaactc tgtctttaat atttccagg cagttagctc

241 taacattaat agacttcttt ctggtgatag taatgtgtgt aacaatttat atgtaaaaaa

301 gcttcagcgc tetatctatg ataattgta tagatctagt gctgtgatg acaatgtgt

361 tacagaattt tataactatc ttaagaagca tttctctatg atg

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LOCUS MN312246 405 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6347 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312246

VERSION MN312246

**KEYWORDS** .**SOURCE** Rhinolophus bat coronavirus HKU2**ORGANISM** Rhinolophus bat coronavirus HKU2Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.**REFERENCE** 1 (bases 1 to 405)**AUTHORS** Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.**TITLE** Origin and cross-species transmission of bat coronaviruses in China**JOURNAL** Unpublished**REFERENCE** 2 (bases 1 to 405)**AUTHORS** Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.**TITLE** Direct Submission**JOURNAL** Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China**FEATURES** Location/Qualifiers

source 1..405

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="6347"

/host="Rhinolophus sp."

/db\_xref="taxon:693998"

/country="China"

gene &lt;1..&gt;405

/gene="RdRp"

CDS &lt;1..&gt;405

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87866"

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VIHSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKL  
QRSIYDNCYRSSAVDDNVVTEFYNYLKKHFSMM"**ORIGIN**1 tgtgatagag ctatgcctag tatgatccgc atgcttgctg ctatggttct tggatcaaag  
61 catgttcatc gttgtacaga cagtgatagg tttacagac ttctaata ga acttgcaaaa  
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241 tctaacatta atagacttct ttctgttgat agtaatgtgt gtaacaattt atatgtaaaa  
301 aagcttcagc gctctatcta tgataattgt tatagatcta gtgctgttga tgacaatgtt  
361 gttacagaat ttataacta tcttaagaag catttcteta tgatg

//

**LOCUS** MN312247 404 bp RNA linear VRL 07-NOV-2019**DEFINITION** Rhinolophus bat coronavirus HKU2 isolate 6350 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.**ACCESSION** MN312247**VERSION** MN312247**KEYWORDS** .**SOURCE** Rhinolophus bat coronavirus HKU2**ORGANISM** Rhinolophus bat coronavirus HKU2Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.



REFERENCE 1 (bases 1 to 404)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 404)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

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/db\_xref="taxon:693998"  
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gene <1..>404  
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RSIYDNCYRSSAVDDNVVTEFYNYLKKHFSMM"

ORIGIN

1 gtgatagagc tatgctagt atgatccga tgcctgctgc tatggttctt ggatcaaage  
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181 caggtgatgc tacaactgct tatgcaaact ctgtcttaa tttttccag gcagttagct  
241 ctaataataa tagacttctt tctgttgata gtaatgtgtg taacaattta tatgtaaaa  
301 agcttcagcg ctctatctat gataattggt atagatctag tgctgttgat gacaatgttg  
361 ttacagaatt ttataactat ctaagaagc atttctctat gatg

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LOCUS MN312248 352 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 6353 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312248

VERSION MN312248

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 352)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 352)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..352  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="6353"  
/host="Miniopterus fuliginosus"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>352  
/gene="RdRp"  
CDS <1..>352  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87868"  
/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKSL  
QRSLYDNCYRTSTV"

#### ORIGIN

1 aatgtgatag agcattgcct aatatgatcc gtatgatata cgccatgatt ttgggttcta  
61 agcatgagaa ttgtgtact aactctgacc gttattatag actatgcaac gagttggetc  
121 aagtactaac cgaggtatgc tattctaag gcggttttta ttaaaacca ggtggtacga  
181 catcgggtga tgcaacgacg gcttatgcca atcagtggt taatatttt caagcagtca  
241 gtgtaacat taatcgatt ttgggcgta atagcaatac ttgcaataac ttaacagtta  
301 aaagttgca gcgctcttg tatgacaatt gttatcgac tagtactgtg ga

//

LOCUS MN312249 416 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6355 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.  
ACCESSION MN312249  
VERSION MN312249  
KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2  
ORGANISM Rhinolophus bat coronavirus HKU2  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 416)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 416)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
source            1..416  
                  /organism="Rhinolophus bat coronavirus HKU2"  
                  /mol\_type="genomic RNA"  
                  /isolate="6355"  
                  /host="Rhinolophus sp."  
                  /db\_xref="taxon:693998"  
                  /country="China"  
gene              <1..>416  
                  /gene="RdRp"  
CDS                <1..>416  
                  /gene="RdRp"  
                  /codon\_start=1  
                  /product="RNA-dependent RNA polymerase"  
                  /protein\_id="QGA87869"  
                  /translation="CDRAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNE  
                  VVHSNGGFYVKPGGTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKL  
                  QRSIYDNCYRSSAVDDNVVTEFYNYLKKHFSMMIQL"

#### ORIGIN

1 tgtgatagag ctatgcctag tatgatccgc atgcttgctg ctatggttct tggatcaaag  
61 catgttaccat gttgtacaga cagtgatagg ttttacagac ttctaataga acttgccaaa  
121 gttcttaagt aggtgtgaca ttcaatgga ggttttatg taaaaccggg tggcactaca  
181 tcagtgatg ctacaactgc ttatgcaaac tctgtcttta atatttcca ggcagttagc  
241 tctaataatta atagacttct ttctgttgat agtaatgtgt gtaacaattt atatgtaaaa  
301 aagcttcagc gctctatcta tgataattgt tatagatcta gtgctgttga tgacaatgtt  
361 gttacagaat ttataacta tcctaagaag catttctcta tgatgattca actgat

//

LOCUS    MN312250            416 bp    RNA    linear    VRL 07-NOV-2019  
DEFINITION    Bat coronavirus HKU10 isolate 6362 RNA-dependent RNA polymerase  
                  (RdRp) gene, partial cds.

ACCESSION    MN312250

VERSION      MN312250

KEYWORDS     .

SOURCE       Bat coronavirus HKU10

ORGANISM     Bat coronavirus HKU10

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Decacovirus.

REFERENCE    1 (bases 1 to 416)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Origin and cross-species transmission of bat coronaviruses in China

JOURNAL      Unpublished

REFERENCE    2 (bases 1 to 416)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Direct Submission

JOURNAL      Submitted (13-AUG-2019) Key laboratory of special pathogens and  
                  biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
                  Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

source            1..416  
                  /organism="Bat coronavirus HKU10"

/mol\_type="genomic RNA"  
/isolate="6362"  
/host="Hipposideros pomona"  
/db\_xref="taxon:1244203"  
/country="China"  
gene <1..>416  
/gene="RdRp"  
CDS <1..>416  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87870"  
/translation="CDRALPNMIRMISAMILGSKHTTCCTTDERYYRLCNELAQVLTE  
VVYSNGGFYLPKGGTTSGDASTAYANSVFNIFQAVSSNINRLLTIDSNVCNNVSVKSL  
QRELYDNCYRSSSVDEQFIDKYCYLRKHFMMIQL"

#### ORIGIN

1 tgtgatagag cattgcctaa tatgatacgt atgattctg ctatgatact tggttctaaa  
61 cacacgactt gttgtaccac agatgagagg tattataggt tgtgtaatga actgcacaaa  
121 gtattaacag aagttgtgta ttcaatggt ggttttacc taaacctgg tggactaca  
181 tctggtgatg catccacagc ctatgctaac tcagtcttta atattttca ggcgtgcagt  
241 ttaacatta acaggttact gactatcgac agtaacctgt gtaataatgt tagtgtaaag  
301 tctctcaga gagaattata tgacaactgc tatagatcgt caagtgtcga tgagcaatt  
361 atagataagt attattgcta ttgcgcaaaa cacttttcta tgatgattca actgat

//

LOCUS MN312251 407 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6367 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312251

VERSION MN312251

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 407)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 407)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..407  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="6367"  
/host="Hipposideros armiger"  
/db\_xref="taxon:693998"  
/country="China"

gene <1..>407  
/gene="RdRp"  
CDS <1..>407  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87871"  
/translation="DRAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEV  
VHSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQ  
RSIYDNCYRSSAVDDNVVTEFYNYLKKHFSMMI"

ORIGIN

1 gtgatagagc tatgcctagt atgatccgca tgcttgctgc tatggttctt ggatcaaagc  
61 atgttacatg ttgtcacagac agtgataggt ttacagact ttcaatgaa ctgcacaag  
121 ttctaatga ggttgatcat tccaatggag gtttctatgt aaaaccggg ggcactacat  
181 caggtgatgc tacaactgct tatgcaaact ctgtcttaa tttttccag gcagttagct  
241 ctaataataa taggettctt tctgttgata gtaatgtgtg taacaattta tatgtcaaaa  
301 agcttcagcg ctctatctat gacaactgtt atagatctag tgctgttgat gacaatgttg  
361 ttacagaatt ttataactat ctaagaagc attttctat gatgatt

//

LOCUS MN312252 406 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6374 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312252

VERSION MN312252

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..406  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="6374"  
/host="Rhinolophus sp."  
/db\_xref="taxon:693998"  
/country="China"

gene <1..>406  
/gene="RdRp"

CDS <1..>406  
/gene="RdRp"  
/codon\_start=1

/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87872"  
/translation="CDRAMPSMIRMLAAMVLGSKHVTCTDSDRFYRLSNELAQVLNE  
VIHSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKL  
QRSIYDNCYRSSAVDDNVVTEFYNYLKKHFSMM"

ORIGIN

1 tgtgatagag ctatgcctag tatgatccgc atgcttgctg ctatggttct tggatcaaag  
61 catgttacat gttgtacaga cagtgatagg tttacagac tttctaatga acttgcaaca  
121 gttcttaagt aggttataca ttccaatgga ggttttatg taaaaccggg tggcactaca  
181 tcaggtgatg ctacaactgc ttatgcaaac tctgtcttta atattttcca ggcagtttagc  
241 tctaacatta atagacttct ttctgttgat agtaatgtgt gtaacaattt atatgtaaaa  
301 aagcttcagc gctctatcta tgataattgt tatagatcta gtgctgttga tgacaatgtt  
361 gttacagaat ttataacta tcttaagaag catttctcta tgatga

//

LOCUS MN312253 398 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6375-1 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312253

VERSION MN312253

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 398)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 398)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..398

/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="6375-1"  
/host="Rhinolophus sp."  
/db\_xref="taxon:693998"  
/country="China"

gene <1..>398  
/gene="RdRp"

CDS <1..>398  
/gene="RdRp"

/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87873"  
/translation="RAMPSMIRMLAAMVLGSKHVTCTDSDRFYRLSNELAQVLNEVI  
HSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQR  
SIYDNCYRSSAVDDNVVTEFYNYLKKHFSM"

## ORIGIN

1 agagctatgc ctatgatgat ccgcatgctt gctgctatgg ttcttggatc aaagcatgtt  
61 acatgttgta cagacagtga taggttttac agactttcta atgaacttgc acaagtctt  
121 aatgaggta tacattccaa tggagggttt tatgtaaac ccggtggcac tacatcaggt  
181 gatgctacaa ctgcttatgc aaactctgtc ttaatatatt tccaggcagt tagctctaac  
241 attaatagac ttctttctgt tgatagtaat gtgtgtaaca atttatatgt aaaaaagctt  
301 cagcgtccta tctatgataa ttgttataga tctagtgtcg ttgatgacaa tgtgtgtaca  
361 gaattttata actatcttaa gaagcatttc tctatgat

//

LOCUS MN312254 398 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 6375-2 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312254

VERSION MN312254

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 398)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 398)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..398

/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="6375-2"  
/host="Rhinolophus sp."  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>398

/gene="RdRp"

CDS <1..>398

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87874"

/translation="RALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEVV

YSNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKSLQR

SLYDNCYRTSTVDPAFVDTFYGYLRKHFSM"

## ORIGIN

1 cagagcactg cctaataatga tccgatgat atccgccatg attttgggtt ctaagcatga  
61 gaattgtgt actaactctg accgttatta tagactatgc aacgagtgg ctcaagtact  
121 gaccgagga gtctattcta atggcggttt ttatttaaaa ccaggtggta cgacatcggg

181 tgatgcaacg acggcctatg ccaattcagt gtttaatttttcaagcag tcagtgctaa  
241 cattaatcgc attttgggcg ttaatagcaa tacttgcaat aacttaacag ttaaagttt  
301 gcagcgcctct ttgatgaca attgttatcg cactagtact gtggaccctg cctttgtaga  
361 cacattttat ggttacttac gcaaacattt ctctatga

//

LOCUS MN312255 406 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6377 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312255

VERSION MN312255

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..406

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="6377"

/host="unknown"

/db\_xref="taxon:693998"

/country="China"

gene <1..>406

/gene="RdRp"

CDS <1..>406

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87875"

/translation="CDRAMPSMIRMLAAMVLGSKHVTCTDSDRFYRLSNELAQVLNE

VIHSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKL

QRSIYDNCYRSSAVDDNVVTEFYNYLKKHFSMM"

ORIGIN

1 tgtagatag ctatgcctag tatgatccgc atgettctg ctatggttct tggatcaaag  
61 catgttacat gttgtacaga cagtgatagg tttacagac tttctaatga acttgcaaaa  
121 gttcttaagt aggttataca ttccaatgga ggtttttatg taaaaccggg tggcactaca  
181 tcaggtgatg ctacaactgc ttatgcaaac tctgtcttta atattttcca ggcagtttagc  
241 tctaacatta atagacttct ttctgttgat agtaatgtgt gtaacaattt atatgtaaaa  
301 aagcttcagc gctctatcta tgataattgt tatagatcta gtgctgttga tgacaatgtt  
361 gttacagaat ttataacta tcttaagaag catttctcta tgatga

//



LOCUS MN312256 395 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6388 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312256

VERSION MN312256

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 395)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 395)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..395

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="6388"

/host="Rhinolophus sp."

/db\_xref="taxon:693998"

/country="China"

gene <1..>395

/gene="RdRp"

CDS <1..>395

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87876"

/translation="CDRAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNE

VIHSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKL

QRSIYDNCYRSSAVDDNVVTEFYNYLKKH"

ORIGIN

1 aatgtgatag agctatgcct agtatgatcc gcatgcttgc tgctatggtt cttggatcaa  
61 agcatgttac atgtgtaca gacagtgata ggttttacag actttctaata gaactgcac  
121 aagttcttaa tgagggtata cattccaatg gaggtttta tgtaaaaccc ggtggcacta  
181 catcaggtga tgctacaact gcttatgcaa actctgtctt taatatttc caggcagta  
241 gctctaaca taatagactt cttctgttg atagtaatgt gtgtaacaat ttatatgaa  
301 aaaagcttca gcgctctatc tatgataatt gttatagatc tagtgctgtt gatgacaatg  
361 ttgttacaga atttataac tatcttaaga agcat

//

LOCUS MN312257 400 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6389 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312257

VERSION MN312257

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 400)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 400)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..400

/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="6389"  
/host="Rhinolophus sp."  
/db\_xref="taxon:693998"  
/country="China"

gene <1..>400

/gene="RdRp"

CDS <1..>400

/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87877"  
/translation="RAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEVV  
HSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQR  
SIYDNCYRSSAVDDNVVTEFYNYLKKHFSMM"

ORIGIN

1 tagagctatg cctagatga tccgcatgct tgctgctatg gttcttgat caaagcatg  
61 tacatgttg acagacagt ataggttta cagacttct aatgaactg cacaagtct  
121 taatgaggt gtacattcca atggaggtt ttatgtaaa cccggtggca ctacatcagg  
181 tgatgctaca actgctatg caaactctgt cttaaatatt ttccaggcag ttagctctaa  
241 cattaataga cttcttctg ttgatagtaa tgtgtgtaac aatttatatg taaaaagct  
301 tcagcgtct atctatgata atgttatag atctagtgt gttgatgaca atgtgttac  
361 agaatttat aactatcta agaagcattt ctctatgatg

//

LOCUS MN312258 401 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU6 isolate 6400 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312258

VERSION MN312258

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified

Alphacoronavirus.

REFERENCE 1 (bases 1 to 401)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 401)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES

Location/Qualifiers

source 1..401  
/organism="Bat coronavirus HKU6"  
/mol\_type="genomic RNA"  
/isolate="6400"  
/host="Rhinolophus sp."  
/db\_xref="taxon:393045"  
/country="China"  
gene <1..>401  
/gene="RdRp"  
CDS <1..>401  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87878"  
/translation="RALPNMIRMISAMILGFKHVTCCTASDRFYRLCNELAQVLTEVI  
YSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQR  
KLYDCCYRSSSVDASFVDEYFGYLRKHFSSMM"

ORIGIN

1 tagagcatta ctaaatatga ttagaatgat ttccgctatg atttggggtt ttaagcacgt  
61 cacgtgctgt actgctagt acaggttita tagactctgt aatgagttgg cccaagtctt  
121 aacagaggtt atctattcta atgggtggtt ctacctaaa cctggtggta ccacttctgg  
181 tgatgctact actgcatacg ccaattctgt cttaacatt ttccaggcag ttagtgctaa  
241 tgcaacagg ttgcttggtg ttgatagcaa cacatgcaac aatcttgaag tcaagcaatt  
301 acagcgtaag ctttatgatt gctgctacag atcatctagt gttgatgcta gttttgtgga  
361 tgagtatttt ggctatctac gtaagcattt ttctatgatg a

//

LOCUS MN312259 403 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 6401 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312259

VERSION MN312259

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 403)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 403)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers  
source 1..403  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="6401"  
/host="unknown"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>403  
/gene="RdRp"  
CDS <1..>403  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87879"  
/translation="DRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEV  
VYNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKSLQ  
RSLYDNCYRTSTVDPAFVDTFYGYLRKHFSM"

#### ORIGIN

1 gtgatagagc attgecta atgatccgta tgatatccgc catgatttg ggttctaagc  
61 atgagaattg ttgtactaac tctgaccgtt attatagact atgcaacgag ttggctcaag  
121 tactaaccga ggtagtctat tctaatggcg gtttttatt aaaaccaggt ggtacgacat  
181 cgggtgatgc aacgacggct tatgccaatt cagtgttaa tattttcaa gcagtcagtg  
241 ctaacattaa tcgcatttg ggcgtaata gcaatactg caataacta acagtaaaa  
301 gtttgacgcg ctcttgat gacaattgt atgcactag tactgtggac cctgccttg  
361 tagacacatt ttatggtac ttacgcaaac atttctat gat

//

LOCUS MN312260 401 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6403 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312260

VERSION MN312260

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 401)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 401)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..401  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="6403"  
/host="Rhinolophus sp."  
/db\_xref="taxon:693998"  
/country="China"  
gene <1..>401  
/gene="RdRp"  
CDS <1..>401  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87880"  
/translation="DRAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEV  
VHNSGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQ  
RSIYDNCYRSSAVDDNVVTEFYNYLKKHFSM"

ORIGIN

1 tgatagagct atgcctagta tgatccgcat gcttgctgct atggttcttg gatcaaagca  
61 tgttcatgt tgtacagaca gtgatagggt ttacagactt tctaatgaac ttgcacaagt  
121 tcttaatgag gttgtacatt ccaatggagg tttttatgta aaaccgggtg gcactacatc  
181 aggtgatgct acaactgctt atgcaaactc tgtctttaat attttccagg cagttagctc  
241 taatattaat agacttcttt ctggtgatag taatgtgtgt aacaatttat atgtaaaaaa  
301 gcttcagegc tctatctatg ataattgtta tagatctagt gctgttgatg acaatgttgt  
361 tacagaattt tataactatc ttaagaagca tttctctatg a

//

LOCUS MN312261 400 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6406 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312261

VERSION MN312261

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 400)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 400)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..400  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="6406"  
/host="Rhinolophus affinis"  
/db\_xref="taxon:693998"  
/country="China"  
gene <1..>400  
/gene="RdRp"  
CDS <1..>400  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87881"  
/translation="RAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEVV  
HSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQR  
SIYDNCYRSSAVDDTVVTDYFNYLKKHFSMM"

#### ORIGIN

1 agagctatgc ctagtatgat acgtatgctt gctgccatgg ttcttgatc taagcacgtt  
61 acatgttgta cacagactga taggtttac agacttteta atgaactgc tcaagttctt  
121 aatgaagttg tcattctaa tggaggtttt tatgtaaac caggtggcac cacatcaggt  
181 gatgctacga ctgcttatgc gaattctgtt ttaacatct ttcaggcagt tagctctaat  
241 attaacaggc ttctttctgt tgatagtaat gtgtgtaaca atttgtatgt caaaaagctc  
301 cagcgtctta tctatgacaa ttgttatagg tctagtgtg ttgatgacac tgttgttaca  
361 gacttttaca attatcttaa gaagcacttt tctatgatga

//

LOCUS MN312262 401 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 6408 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312262

VERSION MN312262

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 401)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 401)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..401  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="6408"

/host="Miniopterus sp."  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>401  
/gene="RdRp"  
CDS <1..>401  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87882"  
/translation="RALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEVV  
YSNGGFYLKPGGTTSGDATAAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKSLQR  
SLYDNCYRTSTVDPAFVDTFYGYLRKHFSMM"

#### ORIGIN

1 tagagcattg ctaatatga tccgtatgat atccgccatg atttggggtt ctaagcatga  
61 gaattgtgt actaactctg accgttatta tagactatgc aacgagtgg ctcaagtact  
121 aaccgagga gtctattcta atggcggttt tatttaaaa ccaggtgga cgacatcggg  
181 tgatgcgacg gcggttatg ccaattcagt gtttaatttt ttcaagcag tcagtgctaa  
241 cattaatcgc atttggggcg ttaatagcaa tacttgcaat aacttaacag ttaaagttt  
301 gcagcgtctt ttgatgaca attgttatcg cactagtact gtggaccctg cctttgtaga  
361 cacatttat ggttacttac gcaaacattt ctctatgatg a

//

LOCUS MN312263 352 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6409 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312263

VERSION MN312263

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 352)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 352)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..352  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="6409"  
/host="Rhinolophus sp."  
/db\_xref="taxon:693998"  
/country="China"  
gene <1..>352  
/gene="RdRp"

CDS <1..>352  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
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/translation="AAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEVVHSNGGFYVKP  
GGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQRSIYDNCYRSS  
AVDDNVVTEFYNYL"

ORIGIN

1 ttgctgctat ggttcttggga tcaaagcatg ttacatggtg tacagacagt gataggttt  
61 acagacttcc taatgaactt gcacaagttc ttaatgaggt tgtacattcc aatggaggtt  
121 tctatgtaaa acccggtggc actacatcag gtgatgctac aactgcttat gcaaactctg  
181 tcttaatat ttccaggca gttagctcta atattaatag gcttcttct gttgatagta  
241 atgtgtgtaa caatttat gtcaaaaagc ttcagcgtc tatctatgac aactgttata  
301 gatctagtgc tgttgatgac aatgtgtta cagaatttta taactatctt aa

//

LOCUS MN312264 419 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6416 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312264

VERSION MN312264

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 419)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 419)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..419

/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="6416"  
/host="Rhinolophus sp."  
/db\_xref="taxon:693998"  
/country="China"

gene <1..>419

/gene="RdRp"

CDS <1..>419

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87884"

/translation="DYPKCDRAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQ



VLNEVVHSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLY  
VKKLQRSIYDNCYRSSAVDDNVVTEFYNYLKKHFSMM"

ORIGIN

1 gattatccta aatgtgatag agctatgcct agtatgatcc gcatgcttgc tgctatggtt  
61 cttggatcaa agcatgttac atgtgtaca gacagtata gggtttacag actttctaat  
121 gaactgcac aagttcttaa tgaggttga cattcaatg gaggtttta tgtaaaacc  
181 ggtggcacta catcaggtga tgctacaact gcttatcaa actctgtctt taatatttc  
241 caggcagta gctetaacat taatagactt cttctgttg atagtaatgt gtgtaacaat  
301 ttatgtaa aaaagctca gcgctctatc tatgataatt gttatagatc tagtgctgtt  
361 gatgacaatg ttgttacaga attttataac tatcttaaga agcattctc tatgatgat

//

LOCUS MN312265 418 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6424 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312265

VERSION MN312265

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 418)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 418)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..418

/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="6424"  
/host="Rhinolophus sp."  
/db\_xref="taxon:693998"  
/country="China"

gene <1..>418

/gene="RdRp"

CDS <1..>418

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87885"

/translation="CDRAMPSMIRMLAAMVLGSKHVTCCTDSDFYRLSNELAQVLNE  
VIHSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKL  
QRSIYDNCYRSSAVDDNVVTEFYNYLKKHFSMMIQLM"

ORIGIN

1 tgtgatagag ctatgcctag tatgatccgc atgcttgctg ctatggttct tggatcaaag  
61 catgttacat gttgtacaga cagtgatagg tttacagac ttctaatga acttgcacaa

121 gttcttaatg aggttataca ttccaatgga ggttttatg taaaaccggg tggcactaca  
181 tcaggtgatg ctacaactgc ttatgcaaac tctgtcttta atattttcca ggcagttagc  
241 tctaacatta atagacttct ttctgttgat agtaatgtgt gtaacaattt atatgtaaaa  
301 aagcttcagc gctctatcta tgataattgt tatagatcta gtgctgttga tgacaatgtt  
361 gttacagaat ttataacta tcttaagaag catttctcta tgatgattca actgatga

//

LOCUS MN312266 405 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6425 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312266

VERSION MN312266

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 405)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 405)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..405

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="6425"

/host="unknown"

/db\_xref="taxon:693998"

/country="China"

gene <1..>405

/gene="RdRp"

CDS <1..>405

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87886"

/translation="DRAMPSMIRMLAAMVLGSKHVTCCTDSDFYRLSNELAQVLNEV

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RSIYDNCYRSSAVDDNVVTEFYNYLKKHFSMM"

ORIGIN

1 gtgatagagc tatgctagt atgatccgca tgcttgctgc tatggttctt ggatcaaage

61 atgttacatg ttgtacagac agttagatggg ttacagact ttcaatgaa cttgcacaag

121 ttcttaatga ggttatacat tccaatggag gttttatgt aaaaccggg ggcactacat

181 caggtgatgc tacaactgct tatgcaaact ctgtctttaa tattttccag gcagttagct

241 ctaacattaa tagacttctt tctgttgata gtaatgtgtg taacaattta tatgtaaaaa

301 agcttcagcg ctctatctat gataattggt atagatctag tgctgttgat gacaatgttg

361 ttacagaatt ttataactat ctaagaagc atttctctat gatga

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LOCUS MN312267 400 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6427 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312267

VERSION MN312267

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 400)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 400)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..400

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="6427"

/host="Rhinolophus affinis"

/db\_xref="taxon:693998"

/country="China"

gene <1..>400

/gene="RdRp"

CDS <1..>400

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87887"

/translation="RAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEVV

HSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQR

SIYDNCYRSSAVDDTVVTDYFNYLKKHFSM"

ORIGIN

1 atagagctat gcctagtatg atacgtatgc ttgctgcat ggttcttga tctaagcacg  
61 ttacatgttg tacagacagt gataggtttt acagacttc taatgaactt gctcaagtc  
121 ttaatgaagt tgtgcattct aatggaggtt tttatgtaa accaggtggc accacatcag  
181 gtgatgctac gactgctat gcgaattctg ttttaacat cttcaggca gtagctcta  
241 atattaacag gcttctttct gttgatagta atgtgtgtaa caatttgat gtcaaaaagc  
301 tccagcgtc tatctatgac aattgttata ggtctagtgc tgttgatgac actgttgta  
361 cagacttta caattatctt aagaagcact ttctatgat

//

LOCUS MN312268 401 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU6 isolate 6535 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312268

VERSION MN312268

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 401)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 401)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..401

/organism="Bat coronavirus HKU6"

/mol\_type="genomic RNA"

/isolate="6535"

/host="Aselliscus stoliczkanus"

/db\_xref="taxon:393045"

/country="China"

gene <1..>401

/gene="RdRp"

CDS <1..>401

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87888"

/translation="RALPNMIRMISAMILGSKHVTCCTASDRFYRLCNELAQVLTEVI

YSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKRLQR

KLYDCCYRSSVSDASFVDEYFGYLRKHFSMM"

ORIGIN

1 tagagcatta ctaaatatga ttagaatgat ttccgctatg attttgggtt ctaagcacgt

61 cacgtgctgt actgctagt acaggttta tagactctgt aatgagttgg cccaagtctt

121 aacagaggtt atctattcta atggtggttt ctacctaaa cctggtgta ccacttctgg

181 tgatgctact actgcatag ccaattctgt cttaacatt ttccaggcag ttagtgctaa

241 tgcaacagg ttgcttggtg ttgatagcaa cacatgcaac aatcttgaag tcaagcgatt

301 acagcgtaag ctttatgatt gctgctacag atcatctagt gttgatgcta gttttgtgga

361 tgagtatttt ggctatctac gtaagcattt ttctatgatg a

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LOCUS MN312269 400 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU6 isolate 6543 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312269

VERSION MN312269

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 400)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 400)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..400

/organism="Bat coronavirus HKU6"

/mol\_type="genomic RNA"

/isolate="6543"

/host="Aselliscus stoliczkanus"

/db\_xref="taxon:393045"

/country="China"

gene <1..>400

/gene="RdRp"

CDS <1..>400

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87889"

/translation="DRALPNMIRMISAMILGSKHVTCCTASDRFYRLCNELAQVLTEV

IYSNGGFYLPKPGGTTSGDATTAYANSVFSIFQAVSANVNRLLGVDSNTCNNLEVKQLQ

RKLYDCCYRSSSVDASFVDGYFGYLRKHFSM"

ORIGIN

1 gatagagcat tacctaata gattagaatg atttccgcta tgattttggg ttctaagcac  
61 gtcacgtgct gtaactgtag tgacaggttt tatagactct gtaatgagtt ggcccaagtc  
121 ttaacagagg ttatctatc taatggtggt ttctacctt aacctggtgg taccacttct  
181 ggtgatgcta ctactgcata cgccaattct gtctttagca tttccaggc agttagtgt  
241 aatgtcaaca gttgcttgg tttgatagc aacacatgca acaatctga agtcaagcaa  
301 ttacagcgta agctttatga ttgctgctac agatcatcta gtgtgatgc tagttttgtg  
361 gatgggtatt ttgctatct acgtaagcat tttctatga

//

LOCUS MN312270 406 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6589 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312270

VERSION MN312270

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 406)  
AUTHORS Latinne, A., Hu, B., Zhu, G., Zhang, L., Olival, K. J.,  
Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers  
source 1..406  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="6589"  
/host="Rhinolophus sp."  
/db\_xref="taxon:693998"  
/country="China"  
gene <1..>406  
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CDS <1..>406  
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QRSIYDNCYRSSAVDDNVVTEFYNYLKKHFSMM"

#### ORIGIN

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61 catgttcatc gttgtacaga cagtgatagg tttacagac tttctaatga acttgcaaca
121 gttcttaatg aggtataca ttccaatgga ggttttatg taaaacctgg tggcactaca
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241 tctaacatta atagacttct ttctgttgat agtaatgtgt gtaacaattt atatgtaaaa
301 aagcttcagc gctctatcta tgataattgt tatagatcta gtgctgttga tgacaatgtt
361 gttacagaat ttataacta tcttaagaag catttcteta tgatga
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LOCUS MN312271 380 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6590 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312271

VERSION MN312271

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 380)

AUTHORS Latinne, A., Hu, B., Zhu, G., Zhang, L., Olival, K. J.,  
Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 380)

AUTHORS Latinne, A., Hu, B., Zhu, G., Zhang, L., Olival, K. J.,

Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..380

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="6590"

/host="Rhinolophus sp."

/db\_xref="taxon:693998"

/country="China"

gene <1..>380

/gene="RdRp"

CDS <1..>380

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

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ORIGIN

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61 acatgttgta cagacagtga taggttttac agactttcta atgaacttgc acaagttctt  
121 aatgaggttg tacattccaa tggaggttcc tatgtaaaac ccgggtggcac tacatcaggt  
181 gatgetacaa ctgcttatgc aaactctgtc tttaatattt tccaggcagt tagctctaat  
241 attaatagc tcttctctgt tgatagtaat gtgtgtaaca atttatatgt caaaaagctt  
301 cagcgtccta tctatgacaa ctggtataga tctagtctgt ttgatgacaa tgttgttaca  
361 gaattttata actatcttaa

//

LOCUS MN312272 380 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6591 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312272

VERSION MN312272

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 380)

AUTHORS Latinne, A., Hu, B., Zhu, G., Zhang, L., Olival, K. J.,

Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 380)

AUTHORS Latinne, A., Hu, B., Zhu, G., Zhang, L., Olival, K. J.,

Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
 source            1..380  
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                   /country="China"  
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ORIGIN

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 61 tgtgttacag acagtgatag gttttacaga ctttctaag aactgcaca agttccta  
 121 gaggtgttac attccaatgg aggtttctat gtaaaccgg gtggcactac atcaggtgat  
 181 gctacaactg cttatgcaaa ctctgtctt aatattttcc aggcagttag ctctaata  
 241 aataggcttc tttctgttga tagtaatgtg tgtaacaatt tatatgtcaa aaagcttcag  
 301 cgctctatct atgacaactg ttatagatct agtgctgttg atgacaatgt tgttacagaa  
 361 tttataact atcttaagaa

//

LOCUS    MN312273            385 bp    RNA    linear    VRL 07-NOV-2019  
 DEFINITION    Rhinolophus bat coronavirus HKU2 isolate 6592 RNA-dependent RNA  
                   polymerase (RdRp) gene, partial cds.

ACCESSION    MN312273

VERSION      MN312273

KEYWORDS     .

SOURCE      Rhinolophus bat coronavirus HKU2

ORGANISM    Rhinolophus bat coronavirus HKU2

              Viruses; Riboviria; Nidovirales; Coronaviridae;  
               Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE    1 (bases 1 to 385)

AUTHORS     Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
               Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE        Origin and cross-species transmission of bat coronaviruses in China

JOURNAL     Unpublished

REFERENCE    2 (bases 1 to 385)

AUTHORS     Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
               Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE        Direct Submission

JOURNAL     Submitted (13-AUG-2019) Key laboratory of special pathogens and  
               biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
               Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

source            1..385  
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                   /mol\_type="genomic RNA"  
                   /isolate="6592"



/host="Rhinolophus affinis"  
/db\_xref="taxon:693998"  
/country="China"  
gene <1..>385  
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CDS <1..>385  
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#### ORIGIN

1 tgatagagct atgcctagta tgatacgtat gcttgctgct atggttcttg gatctaagca  
61 cgttacatgt tgacagaca gtgataggtt ttacagactt tctaacgaac ttgcgcaagt  
121 tcttaatgag gttgtgcatt ctaatggagg tttttatgta aaacctgggtg gcactacatc  
181 aggtgatgct acaactgctt atgcaaattc tgttttaac atcttcagg cagttagctc  
241 taacattaac aggettcttt ctggtgatag taatgtgtgt aacaactgtg acttcaaaaa  
301 gcttcagegc tctatctatg acaattgta taggtctagt gctggtgatg aactgtgtg  
361 tacagacttc tacaactatc ttaag

//

LOCUS MN312274 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6593 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312274

VERSION MN312274

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
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CDS <1..>402  
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ORIGIN

1 atagagctat gcctagatg atccgcatgc ttgctgctat ggttcttggga tcaaagcatg  
61 ttacatgttg tacagacagt gataggtttt acagactttc taatgaactt gcacaagttc  
121 ttaatgaggt tgtacattcc aatggaggtt tctatgtaaa acccggtggc actacatcag  
181 gtgatgctac aactgcttat gcaaactctg tctttaatat ttccaggca gttagcteta  
241 atattaatag gcttctttct gttgatagta atgtgtgtaa caatttatat gtcaaaaagc  
301 ttcagcgtc tatctatgat aactgttata gatctagtgc tgttgatgac aatgttgta  
361 cagaatttta taactatctt aagaagcatt tttctatgat ga

//

LOCUS MN312275 399 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6594 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312275

VERSION MN312275

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..399  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
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/host="Rhinolophus sp."  
/db\_xref="taxon:693998"  
/country="China"

gene <1..>399  
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CDS <1..>399  
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HSNNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQR  
SIYDNCYRSSAVDDNVVTEFYNYLKKHFSMM"

ORIGIN

1 agagctatgc ctagtatgat ccgcatgctt gctgctatgg ttcttggatc aaagcatgtt  
61 acatgttga cagacagtga taggttttac agactttcta atgaacttgc acaagtctt  
121 aatgaggttg tacattccaa tggaggttcc tatgtaaacc ccgggtggcac tacatcaggt  
181 gatgctacaa ctgcttatgc aaactctgtc tttaatattt tccaggcagt tagctctaat  
241 attaatagc ttctttctgt tgatagtaac gtgtgtaaca atttatatgt caaaaagctt  
301 cagcgtccta tctatgataa ctgttataga tctagtgtg ttgatgacaa tgtgtgtaca  
361 gaattttata actatcttaa gaagcatttt tctatgatg

//

LOCUS MN312276 407 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6596 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312276

VERSION MN312276

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 407)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 407)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..407

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="6596"

/host="Rhinolophus affinis"

/db\_xref="taxon:693998"

/country="China"

gene <1..>407

/gene="RdRp"

CDS <1..>407

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87896"

/translation="CDRAMPSMIRMLAAMVLGSKHVTCTDSARFYRLSNELAQVLNE

VVHSNNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKL  
QRSIYDNCYRSSAVDDTVVTDVDFYNYLKKHFSMM"

ORIGIN

1 tgtgatagag ctagcctag tatgatcgt atgcttctg ccatggttct tggatctaag

61 cacgttacat gttgtacaga cagtgttagg ttttacagac ttctaacga acttgcgcaa  
121 gttctaatg aggtgtgca ttctaagga ggttttatg taaacctgg tggcactaca  
181 tcaggtgatg ctacaactgc ttatgcaaat tctgtttta acattttca ggcagttage  
241 tetaacatta acaggcttct ttctgtgat agtaatgtgt gtaacaactt gtagtcaaa  
301 aagcttcagc gctctatcta tgacaattgt tataggtcta gtgctgtga tgacactgtt  
361 gttacagact tctacaacta tettaagaag catttttcta tgatgat

//

LOCUS MN312277 377 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6597 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312277

VERSION MN312277

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 377)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 377)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..377

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="6597"

/host="Rhinolophus sp."

/db\_xref="taxon:693998"

/country="China"

gene <1..>377

/gene="RdRp"

CDS <1..>377

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87897"

/translation="AMPSMIRMLAAMVVLGSKHVTCCTDSDRFYRLSNELAQVLNEVVH

SNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQRS

IYDNCYRSSAVDDNVVTEFYNYL"

ORIGIN

1 gctatgccta gtagatccg catgcttgc gctatggtc ttggatcaa gcatgttaca

61 tgtgtacag acagtgatg gtttacaga ctttctaat aactgcaca agttctaat

121 gaggtgtac attccaatg aggtttctat gtaaaccgg gtggcactac atcaggtgat

181 gctacaactg cttatgcaaa ctctgtctt aatatttcc aggcagttag ctctaatt

241 aataggctc ttctgttga tagtaatgtg tgtaacaatt tatatgtaa aaagcttcag

301 cgctctatc atgacaactg ttatagatc agtgcgttg atgacaatg ttttacagaa

361 tttataact atcttaa  
//  
LOCUS MN312278 380 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6598 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.  
ACCESSION MN312278  
VERSION MN312278  
KEYWORDS .  
SOURCE Rhinolophus bat coronavirus HKU2  
ORGANISM Rhinolophus bat coronavirus HKU2  
Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.  
REFERENCE 1 (bases 1 to 380)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 380)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..380  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="6598"  
/host="Rhinolophus sp."  
/db\_xref="taxon:693998"  
/country="China"  
gene <1..>380  
/gene="RdRp"  
CDS <1..>380  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87898"  
/translation="RAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEVV  
HSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQR  
SIYDNCYRSSAVDDNVVTEFYNYL"

ORIGIN

1 agagctatgc ctagtatgat ccgcatgctt gctgctatgg ttcttgatc aaagcatgtt  
61 acatgttgta cagacagtga taggtttac agactttcta atgaactgc acaagttctt  
121 aatgaggttg tacattcaa tggaggtttc tatgtaaacc ccggtggcac tacatcaggt  
181 gatgctacaa ctgcttatgc aaactctgct ttaatatatt tccaggcagt tagctctaat  
241 attaatagc ttctttctgt tgatagtaat gtgtgtaaca atttatatgt caaaaagctt  
301 cagcgtctta tctatgacaa ctgttataga tctagtctg ttgatgacaa tgttgttaca  
361 gaattttata actatcttaa

//  
LOCUS MN312279 400 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 6601 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312279

VERSION MN312279

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 400)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 400)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..400

/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="6601"  
/host="Miniopterus fuliginosus"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>400

/gene="RdRp"

CDS <1..>400

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87899"

/translation="RALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEVV  
YSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNLTVKSLQR  
SLYDNCYRTSTVDPAFVDTFYGYLRKHFSMM"

ORIGIN

1 agagcattgc ctaatatgat ccgtatgata tccgcatga ttttgggttc taagcatgag  
61 aattgttga ctaactcaga ccgttactat agactatgca acgagttggc acaagtgcta  
121 accgaggtag tctattctaa tgccggtttt tatttaaac caggtggtac gacatcgggt  
181 gatgcaacga cggttatgc caattcagtg ttaatatatt ttcaagcagt cagtgctaac  
241 attaatcgca ttttgggcgt taatagcaat acttgcaata acttaacagt taaaagtttg  
301 cagcgtcttt tgatgacaa ttgtatcgc actagtactg tggaccctgc cttttagac  
361 acatttatg gttacttacg caaacatttc tctatgatga

//

LOCUS MN312280 405 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 6602 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312280

VERSION MN312280

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 405)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 405)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..405

/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="6602"  
/host="Miniopterus fuliginosus"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>405

/gene="RdRp"

CDS <1..>405

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87900"

/translation="DRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEV

VYSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKSLQ

RSLYDNCYRTSTVDPAFVDTFYGYLRKHFSMM"

ORIGIN

1 gtgatagagc attgcctaat atgatccgta tgatatccgc catgattttg ggttctaagc  
61 atgagaattg ttgtactaac tctgaccgtt attatagact atgcaacgag ttggctcaag  
121 tgctaaccga ggtagtctat tctaatggcg gttttattt aaaaccaggt ggtacgacat  
181 cgggtgatgc aacgacggct tatgccaatt cagtgttaa catcttcaa gcagtcagtg  
241 ctaacattaa tcgcatcttg ggcgtaata gcaactctg caataactta acagttaaaa  
301 gtttgacgag cctcttgat gacaattgt atcgactag tactgtggac cctgcctttg  
361 tagacacatt ttatggttac ttacgcaaac atttctctat gatga

//

LOCUS MN312281 404 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 6603 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312281

VERSION MN312281

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 404)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 404)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES

Location/Qualifiers

source 1..404  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="6603"  
/host="Miniopterus sp."  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>404  
/gene="RdRp"  
CDS <1..>404  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87901"  
/translation="DRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEV  
VYSNGGFYLPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKSLQ  
RSLYDNCYRTSTVDPAFVDTFYGYLRKHFSMM"

ORIGIN

1 tgatagagca ttgcctaata tgatacgtat gatatccgcc atgattttgg gttctaagca  
61 tgagaattgt tgactaact cagaccgta ttatagacta tgcaacgagt tggcacaggt  
121 gctaaccgag gtggtctatt ctaatggcgg ttttattta aaaccaggtg gtacgacatc  
181 gggatgca acgacggctt atgccaattc agtgtttaac atcttcaag cagtcagtgc  
241 taacattaat cgcattttgg gcgttaatag caatacttgc aataactga cagttaaag  
301 ttgcagcgc tcttgtatg acaattgta tgcactage actgtggacc ctgccttgt  
361 agacacattt tatggttact tacgcaaca tttctctatg atga

//

LOCUS MN312282 404 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 6605 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312282

VERSION MN312282

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1  
Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 404)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China



JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 404)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..404  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="6605"  
/host="Miniopterus sp."  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>404  
/gene="RdRp"  
CDS <1..>404  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87902"  
/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNLTVKSL  
QRSLYDNCYRTSTVDPAFVDTFYGYLRKHFSM"

#### ORIGIN

1 tgtgatagag cattgcctaa tatgatccgt atgatatccg ccatgatttt gggttctaag  
61 catgaaaatt gttgactaa ctcagaccgt tattatagac tatgcaacga gttggcacag  
121 gtgctaaccg aggtggtcta ttctaattggc ggtttttatt taaaaccagg tggtagcaca  
181 tcgggtgatg caacgactgc ttatgccaat tcagtgttta acatcttca agcagtcagt  
241 gctaacatta atcgcathtt gggcgtaat agcaatact gtaataact gacagttaa  
301 agtttgagc gctctttgta tgacaattgt tatcgcaacta gcactgtgga cctgccttt  
361 gtagacacat tttatggta cttacgcaa catttcteta tgat

//

LOCUS MN312283 404 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 6606 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312283

VERSION MN312283

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 404)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 404)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..404  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="6606"  
/host="Miniopterus fuliginosus"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>404  
/gene="RdRp"  
CDS <1..>404  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87903"  
/translation="DRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEV  
VYSNGGFYLPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKSLQ  
RSLYDNCYRTSTVDPAFVDTFYGYLRKHFSMM"

ORIGIN

1 tgatagagca ttgcctaata tgatccgtat gatatccgcc atgattttgg gttctaagca  
61 tgagaattgt tgactaact ctgaccgta ttatagacta tgcaacgagt tggctcaagt  
121 gctaaccgag gtagtctatt ctaatggcgg ttttattta aaaccaggtg gtacgacatc  
181 gggatgagca acgacggctt atgccaattc agtgtttaat attttcaag cagtcagtgc  
241 taacattaat cgcattttgg gcgttaatag caatacttgc aataactaa cagttaaag  
301 ttgcagcgc tcttgtatg acaattgta tgcactagt actgtggacc ctgcctttgt  
361 agacacattt tatggttact tacgcaaca tttctctatg atga

//

LOCUS MN312284 400 bp RNA linear VRL 07-NOV-2019  
DEFINITION Miniopterus bat coronavirus HKU8 isolate 6607 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312284

VERSION MN312284

KEYWORDS .

SOURCE Miniopterus bat coronavirus HKU8

ORGANISM Miniopterus bat coronavirus HKU8

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Minunacovirus.

REFERENCE 1 (bases 1 to 400)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 400)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..400  
/organism="Miniopterus bat coronavirus HKU8"  
/mol\_type="genomic RNA"  
/isolate="6607"  
/host="Miniopterus fuliginosus"  
/db\_xref="taxon:694001"  
/country="China"  
gene <1..>400  
/gene="RdRp"  
CDS <1..>400  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87904"  
/translation="RALPNMIRMISAMILGSKHVNCCTNSDRYYRLCNELAQVLTEVV  
YSNGGFYMKPGGTTSGDATTAYANSVFNIFQAVSANINRILGINSNTCNNLTVKSLQR  
MLYDNCYRSSAVDPGFVDTFYGYLRKHFSM"

#### ORIGIN

1 atagagcatt gcctaacatg atcgtatga tttctgctat gattttgggt tctaagcatg  
61 ttaattgtg taccaattca gatcgttatt atagacttg taatgaact gcacaagtc  
121 ttactgaggt ggtctattct aacggggggt tctatatgaa gcctgggtgg actactctg  
181 gtgatgccac tactgctat gctaattctg tttcaacat attccaggct gttagtgcc  
241 atattaatag gattttgggt attaatagta atacctgtaa taatcttact gttaagtcac  
301 ttcagegcat gctttatgac aattgttata gaagttctgc cgttgatcct ggttttgtg  
361 atacgttta tggctacttg cgtaagcatt tctctatgat

//

LOCUS MN312285 403 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 6608 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312285

VERSION MN312285

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 403)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 403)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..403  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="6608"

/host="Miniopterus sp."  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>403  
/gene="RdRp"  
CDS <1..>403  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87905"  
/translation="DRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEV  
VYSNGGFYLPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKSLQ  
RSLYDNCYRTSTVDPAFVDTFYGYLRKHFSM"

#### ORIGIN

1 gtgatagagc attgctaata atgatccgta tgatatccgc catgattttg ggttctaagc  
61 atgagaattg ttgtactaac tcagaccgtt attatagact atgcaacgag ttggcacagg  
121 tgctaaccga ggtggtctat tctaacggcg gttttattt aaaaccagggt ggtacgacat  
181 cgggtgatgc aacgacggct tatgccaatt cagtgttaa tttttcaa gcagtcagtg  
241 ctaacattaa tcgcattttg ggcgtaata gcaactctg caataactg acagttaaa  
301 gtttgacgcg ttctctgat gacaattgtt atgcactag tactgtagac cctgcctttg  
361 tagacacatt ttatggttac ttacgcaaac atttctctat gat

//

LOCUS MN312286 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 6609 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312286

VERSION MN312286

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="6609"  
/host="Miniopterus fuliginosus"  
/db\_xref="taxon:693998"  
/country="China"  
gene <1..>402  
/gene="RdRp"

CDS <1..>402  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87906"  
/translation="RAMPSMIRMLAAMVLGSKHVTCCTSDRFYRLSNELAQVLNEVV  
HSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQR  
SIYDNCYRSSAVDDNVVTEFYNYLKKHFSMM"

ORIGIN

1 atagagctat gcctagatg atccgcatgc ttgctgctat ggttcttgga tcaaagcatg  
61 ttacatgttg tacagacagt gataggtttt acagactttc taatgaactt gcacaagttc  
121 ttaatgaggt tgtacattcc aatggaggtt tctatgtaa acccggtggc actacatcag  
181 gtgatgctac aactgcttat gcaaactctg tcttaatat ttccaggca gttagctcta  
241 atattaatag gcttctttct gtgatagta atgtgtgtaa caattatat gtcaaaaagc  
301 tcagcgcctc tatctatgac aactgttata gatctagtgc tgttgatgac aatgttgta  
361 cagaatttta taactatctt aagaagcatt tttctatgat ga

//

LOCUS MN312287 400 bp RNA linear VRL 07-NOV-2019  
DEFINITION Miniopterus bat coronavirus HKU8 isolate 6610-1 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.  
ACCESSION MN312287  
VERSION MN312287  
KEYWORDS .

SOURCE Miniopterus bat coronavirus HKU8  
ORGANISM Miniopterus bat coronavirus HKU8  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Minunacovirus.  
REFERENCE 1 (bases 1 to 400)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 400)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers  
source 1..400  
/organism="Miniopterus bat coronavirus HKU8"  
/mol\_type="genomic RNA"  
/isolate="6610-1"  
/host="Miniopterus fuliginosus"  
/db\_xref="taxon:694001"  
/country="China"  
gene <1..>400  
/gene="RdRp"  
CDS <1..>400  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87907"

/translation="RALPNMIRMISAMILGSKHVNCCTNSDRYYRLCNELAQVLTEVV  
YSNGGFYMKPGGTTSGDATTAYANSVFNIFQAVSANINRILGINSNTCNNLAVKSLQR  
MLYDNCYRSSAVDPGFVDTFYGYLRKHFSSMM"

ORIGIN

1 cagagcattg cccaacatga ttcgatgat ttctgctatg attttgggtt ctaagcatgt  
61 taattgtgt accaattcag atcgttatta tagactctgt aatgagcttg cacaagttct  
121 tactgaagtt gtctattcta atgggtggtt ctatatgaag cctgggtgta ctacatctgg  
181 tgatgccact acagcctatg ctaattctgt tttcaacata ttccaggccg ttagtgctaa  
241 tattaacagg attttgggta ttaatagtaa tacctgtaat aatcttgctg ttaagtcct  
301 acagcgcgatg ctttatgaca attgttatag aagttctgct gttgaccctg gttttgtga  
361 tacttttat ggctatttgc ggaagcactt ctctatgatg

//

LOCUS MN312288 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat alphacoronavirus isolate 6610-2 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312288

VERSION MN312288

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat alphacoronavirus"

/mol\_type="genomic RNA"

/isolate="6610-2"

/host="Miniopterus fuliginosus"

/db\_xref="taxon:2419667"

/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87908"

/translation="RALPNMIRMISAMILGSKHVNCCTASDRYYRLCNELAQVLTEVV

HSNGGFYMKPGGTTSGDATTAYANSVFNIFQAVSANINRILGINSNTCNNLTVKSIQR

MLYDNCYRTSAVDAGFVDTFYGYLRKHFSSMM"

ORIGIN

1 atagagcact tccaatatg atacgcatga ttctgcat gattcttggg tctaagcatg  
61 ttaactgttg tactgcttct gatagatatt accgccttg taatgagttg gtcaggtcc  
121 tcaactgaggt cggtcattct aatggaggct tctatatgaa gcctgggtgg actacctctg  
181 gtgatgctac tacagcttat gctaattctg tgttaacat ctttcaggct gtcagtgcc  
241 atattaatcg tatattgggtg attaacagca atacatgtaa taaccttact gtaagtcta  
301 tccagcgtat gttgtacgat aactgttacc gtacttctgc tgtggacgct ggttttgtcg  
361 acactttcta tggttatctt agaaagcact ttctatgat ga

//

LOCUS MN312289 416 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7343 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312289

VERSION MN312289

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 416)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 416)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..416

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="7343"

/host="Rhinolophus affinis"

/db\_xref="taxon:693998"

/country="China"

gene <1..>416

/gene="RdRp"

CDS <1..>416

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87909"

/translation="DYPKCDRAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQ

VLNEVVHSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLY

VKKLQRSIYDNCYRSSAVDDTVVTFYNYLKKHFSM"

ORIGIN

1 gattatccta aatgtgatag agctatgcct agtatgatac gtatgcttgc tgctatggtt  
61 cttggatccta agcaggttac atgtgtaca gacagtgata ggttttacag actttctaac  
121 gaacttgcgc aagttcttaa tgaagttgtg cattctaacg gaggtttta tgtaaacct  
181 ggtggcacta catcaggtga tgctacaact gcttatgcaa attctgttt taacatcttt  
241 caggcagta gcttaacat taataggctt ctttctgtg atagtaatgt gtgtaacaac

301 ttgatgtca aaaagcttca gcgctctatc tatgacaatt gttataggtc tagtgctgtt  
361 gatgacactg ttgttacaga cttctacaac tatcttaaga agcatttttc tatgat

//

LOCUS MN312290 407 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU10 isolate 7345 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312290

VERSION MN312290

KEYWORDS .

SOURCE Bat coronavirus HKU10

ORGANISM Bat coronavirus HKU10

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Decacovirus.

REFERENCE 1 (bases 1 to 407)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 407)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..407

/organism="Bat coronavirus HKU10"

/mol\_type="genomic RNA"

/isolate="7345"

/host="Hipposideros pomona"

/db\_xref="taxon:1244203"

/country="China"

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/gene="RdRp"

CDS <1..>407

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/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87910"

/translation="DRALPNMIRMISAMILGSKHTTCCTTDERYYRLCNELAQVLTEV

VYSNGGFYFKPGGTTSGDASTAYANSVFNIFQAVSSNINRLLTIDSNVCNNVSVKTLQ

RELYDNCYRSSVDEQFVDKYYCYLRKHFSMMI"

ORIGIN

1 gtgatagagc attgectaac atgatacga tgatttctgc tatgatactt ggttctaaac  
61 atacaacatg ttgtactact gatgagaggt actaccgatt gtgtaatgaa ttggcccaag  
121 ttttaacaga agttgtgtat tctaatggtg gtttttatt taaacctggt ggtactact  
181 caggagatgc atctacagcc tatgctaact cagtctttaa catttttcag gcagtcagtt  
241 ctaacattaa cagattgttg actatcgaca gcaatgtttg taataatggt agtgtcaaaa  
301 ctctacaaag agagttgtat gacaactgct acagatcadc aagtgttgac gaacaattcg  
361 tagataagta ttattgctat ttacgaagc acttttctat gatgatt

//

LOCUS MN312291 406 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7347 RNA-dependent RNA



polymerase (RdRp) gene, partial cds.  
ACCESSION MN312291  
VERSION MN312291  
KEYWORDS .  
SOURCE Rhinolophus bat coronavirus HKU2  
ORGANISM Rhinolophus bat coronavirus HKU2  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.  
REFERENCE 1 (bases 1 to 406)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 406)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..406  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="7347"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:693998"  
/country="China"  
gene <1..>406  
/gene="RdRp"  
CDS <1..>406  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87911"  
/translation="DRAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEV  
VHSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQ  
RSIYDNCYRSSAVDDAVVTDFYNYLKKHFSMMI"

#### ORIGIN

1 tgatagagct atgcctagta tgatacgtat gtttgetgct atggttcttg gatctaagca  
61 cgttacatgt tgtacagaca gtgataggtt ttacagactt tctaacgaac ttgcgcaagt  
121 tcttaatgag gttgtgcatt ctaatggagg ttttatgta aaacctggtg gcactacatc  
181 aggtgatgct acaactgctt atgcaaattc tgttttaac atcttccagg cagtagctc  
241 taacattaac aggtctctt ctgttgatag taatgtgtgt aacaactgtg atgcaaaaa  
301 gcttcagegc tctatctatg acaattgta taggtctagt gctgttgatg acgctgtgtg  
361 tacagactc tacaactatc ttaagaagca ttttctatg atgatt

//

LOCUS MN312292 409 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7348 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.  
ACCESSION MN312292  
VERSION MN312292  
KEYWORDS .  
SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..409

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="7348"

/host="Rhinolophus sp."

/db\_xref="taxon:693998"

/country="China"

gene <1..>409

/gene="RdRp"

CDS <1..>409

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87912"

/translation="MPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEVVHS

NGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQRSI

YDNCYRSSAVDDNVVTEFYNYLKKHFSMMILTDD"

ORIGIN

1 atgcttagta tgatccgcat gcttgctgct atggttcttg gatcaaagca tgttacatgt  
61 tgtacagaca gtgataggtt ttacagactt tctaatgaac ttgcacaagt tcttaatgag  
121 gttgtacatt ccaatggagg ttttatgta aaaccgggtg gcactacatc aggtgatgct  
181 acaactgctt atgcaaacct tgtctttaat atttccagg cagttagctc taacattaat  
241 agacttcttt ctgttgatag taatgtgtgt aacaattat atgtaaaaaa gcttcagcgc  
301 tctatctatg ataattgta tagatctagt gctgttgatg acaatgtgt tacagaattt  
361 tataactatc ttaagaagca ttctctatg atgatttaa ctgatgatg

//

LOCUS MN312293 400 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7349 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312293

VERSION MN312293

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 400)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrelío,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 400)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrelío,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..400  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="7349"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:693998"  
/country="China"  
gene <1..>400  
/gene="RdRp"  
CDS <1..>400  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87913"  
/translation="RAMPSMIRMLAAMVLGSKHVTCCTSDRFYRLSNELAQVLNEVV  
HSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQR  
SIYDNCYRSSAVDDNVVTEFYNYLKKHFSMM"

#### ORIGIN

1 agagctatgc ctagtatgat tcgcatgctt gctgctatgg ttcttgatc aaagcatgtt  
61 acatgttgta cagacagtga taggttttac agactttcta atgaacttgc acaagtctt  
121 aatgaggttg tacattccaa tggagggttc tatgtaaaac ccggtggcac tacatcaggt  
181 gatgctacaa ctgctatgc aaactctgct ttaatatatt tccaggcagt tagctctaat  
241 attaatagc ttctttctgt tgatagtaat gttgtaaca atttatagt caaaaagctt  
301 cagcgtccta tctatgacaa ctgttataga tctagtctg ttgatgacaa tgttgtaca  
361 gaattttata actatcttaa gaagcatttt tctatgatga

//

LOCUS MN312294 404 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7352 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.  
ACCESSION MN312294  
VERSION MN312294  
KEYWORDS .  
SOURCE Rhinolophus bat coronavirus HKU2  
ORGANISM Rhinolophus bat coronavirus HKU2  
Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.  
REFERENCE 1 (bases 1 to 404)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrelío,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 404)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.

TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..404  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="7352"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:693998"  
/country="China"  
gene <1..>404  
/gene="RdRp"  
CDS <1..>404  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87914"  
/translation="RAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEVV  
HSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQR  
SIYDNCYRSSAVDDNVVTEFYNYLKKHFSMMI"

#### ORIGIN

1 atagagctat gcctagatg atccgcatgc ttgctgctat ggttcttga tcaaagcatg  
61 ttacatgttg tacagacagt gataggttt acagacttc taatgaact gcacaagtc  
121 ttaatgaggt tgtacattct aatggaggt tctatgtaa acctggtggc actacatcag  
181 gtgatgctac aactgctat gcaaactctg tcttaatat ttccaggca gttagctcta  
241 acattaatg actctttct gttgatagta atgtgtgtaa caattatat gtaaaaaagc  
301 tcagcgcgc tatctatgat aattgttata gatctagtgc tgttgatgac aatgttgta  
361 cagaatttta taactatctt aagaagcatt tctctatgat gatt

//

LOCUS MN312295 408 bp RNA linear VRL 07-NOV-2019  
DEFINITION Miniopterus bat coronavirus HKU8 isolate 7355 RNA-dependent RNA polymerase (RdRp) gene, partial cds.  
ACCESSION MN312295  
VERSION MN312295  
KEYWORDS .  
SOURCE Miniopterus bat coronavirus HKU8  
ORGANISM Miniopterus bat coronavirus HKU8  
Viruses; Riboviria; Nidovirales; Coronaviridae; Orthocoronavirinae; Alphacoronavirus; Minunacovirus.  
REFERENCE 1 (bases 1 to 408)  
AUTHORS Latinne, A., Hu, B., Zhu, G., Zhang, L., Olival, K. J., Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 408)  
AUTHORS Latinne, A., Hu, B., Zhu, G., Zhang, L., Olival, K. J., Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
 source            1..408  
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                   /isolate="7355"  
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                   /db\_xref="taxon:694001"  
                   /country="China"  
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 CDS               <1..>408  
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                   /codon\_start=1  
                   /product="RNA-dependent RNA polymerase"  
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 QRMLYDNCYRSSAVDPGFVDTFYGYLRKHFSMMI"

ORIGIN

1 tgtgatagag cattgcctaa catgattcgt atgatttctg ctatgatttt gggttctaag  
 61 catgttaatt gttgtaccaa ttcagatcgt tattatagac ttgtaatga acttgcacaa  
 121 gttctactg aggtggtcta ttctaacggt ggtttctata tgaagcctgg tggactact  
 181 tctggtgatg ccontactgc ctatgccaat tctgtttca acatattcca ggctgtagt  
 241 gctaataatta ataggatttt gggtattaat agtaataacct gtaataatct tactgttaag  
 301 tcaactcage gcattgctcta tgacaattgt tatagaagtt ctgccgttga tcttggttt  
 361 gttgatacgt ttatgggcta cttgcgtaag catttcteta tgatgatt

//

LOCUS    MN312296            394 bp    RNA    linear    VRL 07-NOV-2019  
 DEFINITION    Bat coronavirus 1 isolate 7359 RNA-dependent RNA polymerase (RdRp)  
                   gene, partial cds.

ACCESSION    MN312296

VERSION      MN312296

KEYWORDS     .

SOURCE      Bat coronavirus 1

ORGANISM     Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
 Orthocoronavirinae; Alphacoronavirus; unclassified  
 Alphacoronavirus.

REFERENCE    1 (bases 1 to 394)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
 Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Origin and cross-species transmission of bat coronaviruses in China

JOURNAL      Unpublished

REFERENCE    2 (bases 1 to 394)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
 Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Direct Submission

JOURNAL      Submitted (13-AUG-2019) Key laboratory of special pathogens and  
 biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
 Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

source            1..394  
                   /organism="Bat coronavirus 1"  
                   /mol\_type="genomic RNA"

/isolate="7359"  
/host="Miniopterus fuscus"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>394  
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CDS <1..>394  
/gene="RdRp"  
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/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87916"  
/translation="ALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEVVY  
SNGGFYLKPGGTTSGDATTA YANSVFNIFQAVSANINRILGVNSNTCNNLTVKDLQRS  
LYDNCYRTSTVDPAFVDTFYGYLRKHFSM"

ORIGIN

1 gcattgccta atatgattcg tatgatatcc gccatgattt tgggttccaa gcatgagaat  
61 tgttgtagca actctgatcg ttattataga ctatgcaatg agttagctca agtgctaact  
121 gaggtagtct attctaattg tgggttttat ttaaaccag gtggtacgac atcgggtgat  
181 gcaacgacgg cttatgcaa ctctgtgttt aatatcttc aagcagtcag tgctaacatt  
241 aatcgcatac tgggcgtaa tagcaatact tgtaataact taacagtaa agatttgcag  
301 cgctcgttgt atgacaattg ttatcgcaact agcactgtag accctgcett tntagacacg  
361 tttatggct acttacgcaa acatttctct atga

//

LOCUS MN312297 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Miniopterus bat coronavirus HKU8 isolate 7360 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312297

VERSION MN312297

KEYWORDS .

SOURCE Miniopterus bat coronavirus HKU8

ORGANISM Miniopterus bat coronavirus HKU8

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Minunacovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Miniopterus bat coronavirus HKU8"

/mol\_type="genomic RNA"

/isolate="7360"

/host="Miniopterus fuscus"

/db\_xref="taxon:694001"

/country="China"

gene <1..>402

CDS /gene="RdRp"  
<1..>402  
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/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87917"  
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YSNGGFYMKPGGTTSGDATTAYANSVFNIFQAVSANVNRILGINSNTCNNLTVKSLQR  
MLYDNCYRSSAVDPGFVDTFYGYLRKHFSMMI"

ORIGIN

1 agagcattgc ctaacatgat tcgtatgatt tctgctatga tttggggtc taagcatggt  
61 aattgttga ccaattcaga tcgtattat agacttcgta atgaactgc acaagttctt  
121 actgaggtgg tctattctaa cgggtggttc tatatgaagc ctggtggtac tacttctggt  
181 gatgccacta ctgcctatgc caattctggt tcaacatat tccaggctgt tagtgctaat  
241 gtaaatagga tttgggtat taatagtaat acctgtaata atcttactgt taagtcactt  
301 cagcgcgatgc tctatgacaa ttgttataga agttctgccg ttgatcctgg tttgttgat  
361 acgttttatg gctacttgcg taagcatttc tctatgatga tt

//

LOCUS MN312298 408 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 7369 RNA-dependent RNA polymerase (RdRp)

gene, partial cds.

ACCESSION MN312298

VERSION MN312298

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..408  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="7369"  
/host="Miniopterus sp."  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>408  
/gene="RdRp"

CDS <1..>408  
/gene="RdRp"  
/codon\_start=1

/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87918"  
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VVYSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKDL  
QRSLYDNCYRTSTVDPAFVDTFYGYLRKHFSSMMI"

ORIGIN

1 tgtgatagag cattgcctaa tatgattcgt atgatatccg ccatgatttt gggttccaag  
61 catgagaatt gttgtaccaa ctctgatcgt tattatagac tatgtaatga gttagctcaa  
121 gtgctaactg aggtagtcta ttctaattgg ggtttttatt taaaaccagg tggtagcaca  
181 tcgggtgatg caacaacggc ttatgccaac tctgtgttta acattttca agcagtcagt  
241 gctaacatta atcgcatact gggcggttaat agcaatactt gtaataactt aacagttaa  
301 gatttgacgc gctcgttga tgataattgt tatcgacta gcaactgtga cctgccttt  
361 gtagacacct ttatgggta cttacgcaaa catttcteta tgatgatt

//

LOCUS MN312299 405 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7385 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312299

VERSION MN312299

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 405)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 405)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..405

/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="7385"  
/host="Rhinolophus sp."  
/db\_xref="taxon:693998"  
/country="China"

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/gene="RdRp"

CDS <1..>405  
/gene="RdRp"  
/codon\_start=2

/product="RNA-dependent RNA polymerase"  
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/translation="DRAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEV  
VHSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQ  
RSIYDNCYRSSAVDDNVVTEFYNYLKKHFSSMMI"



ORIGIN

1 tgatagact atgcctagta tgaaccgcat gcttgctgct atggttcttg gatcaaagca  
61 tgttacatgt tgtacagaca gtgatagggt ttacagactt tctaatgaac ttgcacaagt  
121 tcttaagtgg gttgtacatt ccaatggagg ttttatgta aaacccgggtg gcactacatc  
181 aggtgatgct acaactgctt atgcaaactc tgccttaata atttccagg cagttagctc  
241 taacattaat agacttcttt ctggtgatag taatgtgtgt aacaatttat atgtaaaaaa  
301 gcttcagcgc tctatctatg ataattgta tagatctagt gctgtgatg acaatgtgt  
361 tacagaattt tataactatc ttaagaagca tttctctatg atgat

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LOCUS MN312300 407 bp RNA linear VRL 07-NOV-2019

DEFINITION Miniopterus bat coronavirus HKU8 isolate 7389 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312300

VERSION MN312300

KEYWORDS .

SOURCE Miniopterus bat coronavirus HKU8

ORGANISM Miniopterus bat coronavirus HKU8

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Minunacovirus.

REFERENCE 1 (bases 1 to 407)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 407)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..407

/organism="Miniopterus bat coronavirus HKU8"  
/mol\_type="genomic RNA"  
/isolate="7389"  
/host="Miniopterus fuscus"  
/db\_xref="taxon:694001"  
/country="China"

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/gene="RdRp"

CDS <1..>407

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/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87920"  
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VYSNGGFYMKPGGTTSGDATTAYANSVFNIFQAVSANINRILGINSNTCNNLTVKSLQ  
RMLYDNCYRSSAVDPGFVDTFYGYLRKHFSMMI"

ORIGIN

1 gtgacgtgc attgcctaac atgattcgta tgattctgc tatgatttg gtttctaage  
61 atgttaattg ttgtaccaat tcagatcggtt attatagact ttgtaatgaa cttgcacaag  
121 ttcttactga ggtggtctat tctaacgggtg gtttctatat gaagcctggt ggtactactt  
181 ctggtgatgc cactactgcc tatgccaatt ctgtttcaa catattccag gctgttagtg

241 ctaatattaa taggatttg ggtattaata gtaatactg taataatctt actgttaagt  
301 cacttcagcg catgctctat gacaattgtt atagaagttc tgccgttgat cctggtttg  
361 ttgatacgtt ttatggctac ttgcgtaage atttctctat gatgatt

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LOCUS MN312301 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7424 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312301

VERSION MN312301

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="7424"  
/host="Rhinolophus sp."  
/db\_xref="taxon:693998"  
/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87921"

/translation="RAMPSMIRMLAAMVLGPKHVTCCTDSDRFYRLSNELAQVLNEVV  
HSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQR  
SIYDNCYRSSAVDDNVVTEFYNYLKKHFSMMI"

ORIGIN

1 agagctatgc ctagtatgat tcgcatgctt gctgctatgg ttcttgacc aaagcatgtt  
61 acatgttgta cagacagtga taggttttac agactttcta atgaacttgc acaagtctt  
121 aatgaggttg tacattccaa tggaggtttc tatgtaaac ccggtggcac tacatcaggt  
181 gatgctacaa ctgcttatgc aaactctgtc ttaatatatt tccaggcagt tagctctaat  
241 attaatagc ttctttctgt tgatagtaat gttgtgaaca atttatatgt caaaaagctt  
301 cagcgtctta tctatgacaa ctgttataga tctagtgtg ttgatgacaa tttgtgtaca  
361 gaattttata actatcttaa gaagcatttt tctatgatga tt

//

LOCUS MN312302 408 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 7426 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312302

VERSION MN312302

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..408

/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="7426"  
/host="Miniopterus fuliginosus"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>408

/gene="RdRp"

CDS <1..>408

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

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QRSLYDNCYRTSTVDPAFVDTFYGYLRKHFSSMMI"

ORIGIN

1 tgtgatagag cattgcctaa tatgatccgt atgatatccg ccatgatttt gggttctaag  
61 catgagaatt gttgactaa ctctgaccgt tattatagac tatgcaacga gttggetcaa  
121 gtgctaaccg aggtagtcta ttctaattggc ggtttttatt taaaaccagg tggtagcaca  
181 tcgggtgatg caacgacggc ttatgccaat tcagtgttta atatctttca agcagtcagt  
241 gctaacatta atcgcatttt gggcgtaaat agcaatactt gtaataactt gacagttaag  
301 agtttgcagc gctctctgta tgacaattgt tatgcacta gtactgtgga cctgccttt  
361 gtagacacat tttatggta cttacgcaaa catttttcta tgatgatt

//

LOCUS MN312303 421 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7438 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312303

VERSION MN312303

**KEYWORDS** .**SOURCE** Rhinolophus bat coronavirus HKU2**ORGANISM** Rhinolophus bat coronavirus HKU2Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.**REFERENCE** 1 (bases 1 to 421)**AUTHORS** Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.**TITLE** Origin and cross-species transmission of bat coronaviruses in China**JOURNAL** Unpublished**REFERENCE** 2 (bases 1 to 421)**AUTHORS** Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.**TITLE** Direct Submission**JOURNAL** Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China**FEATURES** Location/Qualifiers**source** 1..421/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="7438"  
/host="Rhinolophus affinis"  
/db\_xref="taxon:693998"  
/country="China"**gene** <1..>421

/gene="RdRp"

**CDS** <1..>421

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87923"

/translation="CDRAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNE  
VVHNSGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKL  
QRSIYDNCYRSSAVDDNVVTEFYNYLKKHFSMMIQLM"**ORIGIN**1 aatgtgatag agctatgcct agtatgatcc gcatgcttgc tgctatgggt cttggatcaa  
61 agcatgttac atgttgata gacagtgata ggtttacag actttctaata gaacttgca  
121 aagttcttaa tgagggtgta cattccaatg gaggtttta tgtaaaacc ggtggcacta  
181 catcaggtga tgctacaact gcttatgcaa actctgtctt taatatttc caggcagta  
241 gctctaacaat taatagactt cttctgttg atagtaatgt gtgtaacaat ttatatgtaa  
301 aaaagcttca gcgctctatc tatgataatt gttatagatc tagtgctgtt gatgacaatg  
361 ttgttacaga atttataac tatcttaaga agcatttctc tatgatgatt caactgatga  
421 t

//

**LOCUS** MN312304 370 bp RNA linear VRL 07-NOV-2019**DEFINITION** Bat alphacoronavirus isolate 7473 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.**ACCESSION** MN312304**VERSION** MN312304**KEYWORDS** .**SOURCE** Bat alphacoronavirus**ORGANISM** Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..370

/organism="Bat alphacoronavirus"

/mol\_type="genomic RNA"

/isolate="7473"

/host="Miniopterus sp."

/db\_xref="taxon:2419667"

/country="Laos"

gene <1..>370

/gene="RdRp"

CDS <1..>370

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87924"

/translation="CDRALPNMIRMISAMILGSKHVNCCTASDRYYRLCNELAQVLTE

VVHSNGGFYMKPGGTTSGDATTAYANSVFNIFQAVSANINRILGINSNTCNNLTVKSI

QRMLYDNCYRTSAVDSGFVDT"

ORIGIN

1 aatgtgatag agcacttct aatagatgac gtatgatc agccatgatt cttggtcca  
61 aacatgtaa ctgtgtact gcctctgata ggtattatcg cctttgtaat gagggtgctc  
121 aggttcttac tgaagtcgtc cattcaaatg gtggtttcta tatgaaacct ggcggtacta  
181 ctctggtga tgctacaaca gcttatgcca attctgtgt taacatttc caagctgta  
241 gtgccaatat caatcgata ttgggcatta atagcaacac atgtaacaat cttactgta  
301 agtctataca gcgtatgtg tacgacaatt gttatcgtac ttccgctgt gactctggt  
361 ttgtgacac

//

LOCUS MN312305 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 7476 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312305

VERSION MN312305

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; unclassified

Alphacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.  
 TITLE Origin and cross-species transmission of bat coronaviruses in China  
 JOURNAL Unpublished  
 REFERENCE 2 (bases 1 to 402)  
 AUTHORS Latinne, A., Hu, B., Zhu, G., Zhang, L., Olival, K. J.,  
 Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.  
 TITLE Direct Submission  
 JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
 biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
 Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
 FEATURES Location/Qualifiers  
 source 1..402  
 /organism="Bat coronavirus 1"  
 /mol\_type="genomic RNA"  
 /isolate="7476"  
 /host="Miniopterus fuscus"  
 /db\_xref="taxon:2042696"  
 /country="Laos"  
 gene <1..>402  
 /gene="RdRp"  
 CDS <1..>402  
 /gene="RdRp"  
 /codon\_start=1  
 /product="RNA-dependent RNA polymerase"  
 /protein\_id="QGA87925"  
 /translation="RALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEVV  
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 ORIGIN  
 1 agagcattgc ctaatgat tcgatgata tccgcatga tttgggttc caagcatgag  
 61 aattgttga ccaactcga tcgtattat agactatgta atgagttagc tcaagtgcta  
 121 actgaggtag tctattctaa cgggtggttt tatttaaac caggtggtac gacatcgggt  
 181 gatgcaacga cggtttatgc caactctgtg ttaacattt tcaagcagt cagtgctaac  
 241 attaatcga tactgggcgt caatagcaat actgtaata acttaacagt taaagattg  
 301 cagcgtcgt tgatgataa ttgtatcgc actagcactg tggaccctgc cttttagac  
 361 acctttatg gtacttacg caaacattc tctatgatga tt  
 //  
 LOCUS MN312306 402 bp RNA linear VRL 07-NOV-2019  
 DEFINITION Bat coronavirus 1 isolate 7477 RNA-dependent RNA polymerase (RdRp)  
 gene, partial cds.  
 ACCESSION MN312306  
 VERSION MN312306  
 KEYWORDS .  
 SOURCE Bat coronavirus 1  
 ORGANISM Bat coronavirus 1  
 Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
 Orthocoronavirinae; Alphacoronavirus; unclassified  
 Alphacoronavirus.  
 REFERENCE 1 (bases 1 to 402)  
 AUTHORS Latinne, A., Hu, B., Zhu, G., Zhang, L., Olival, K. J.,  
 Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.  
 TITLE Origin and cross-species transmission of bat coronaviruses in China  
 JOURNAL Unpublished  
 REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat coronavirus 1"

/mol\_type="genomic RNA"

/isolate="7477"

/host="Miniopterus sp."

/db\_xref="taxon:2042696"

/country="Laos"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87926"

/translation="RALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEVV

YSNGGFYLKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKDLQR

SLYDNCYRTSTVDPAFVDTFYGYLRKHFSMMI"

ORIGIN

1 agagcattgc ctaatgat tcgatgata tccgcatga tttgggttc taagcatgag  
61 aattgttga ccaattctga tcgtattac agactatgca atgagttagc tcaagtgcta  
121 actgaggtag tctattctaa tgggtgttt tacttaaac caggtggtac gacatcgggt  
181 gatgcaacga cagcttatgc caattctgtg ttaatatct tcaagcagt cagtgctaac  
241 attaatgca tactgggcgt taatagcaat acttgaata attaacagt taaagattg  
301 cagcgtcgt tgatgataa ttgtatcgc actagcactg tagaccctgc cttgtagac  
361 acatttatg gttacttac caaacatttc tctatgatga tt

//

LOCUS MN312307 376 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU10 isolate 7496 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312307

VERSION MN312307

KEYWORDS .

SOURCE Bat coronavirus HKU10

ORGANISM Bat coronavirus HKU10

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; Decacovirus.

REFERENCE 1 (bases 1 to 376)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 376)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
source            1..376  
                  /organism="Bat coronavirus HKU10"  
                  /mol\_type="genomic RNA"  
                  /isolate="7496"  
                  /host="Aselliscus stoliczkanus"  
                  /db\_xref="taxon:1244203"  
                  /country="Laos"  
gene              <1..>376  
                  /gene="RdRp"  
CDS                <1..>376  
                  /gene="RdRp"  
                  /codon\_start=3  
                  /product="RNA-dependent RNA polymerase"  
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                  /translation="CDRALPNMIRMISAMILGSKHTTCCTTDERYYRLCNELAQVLTE  
                  VVYSNGGFYFKPGGTTSGDASTAYANSVFNIFQAVSSNINRLLTIDSNVCNNVSVKTL  
                  QRELYDNCYRSSSVDEQVIDKYT"

#### ORIGIN

1 aatgtgatag agcattgcc aacatgatac gcatgatttc tgctatgatt cttggttcta  
61 aacacacgac atgttgact accgatgagc ggtattacag gttgtgcaat gaactggctc  
121 aagttttgac agaagctgtg tattctaagt gtggttttta tttcaaacct ggtggtacta  
181 catctggtga tgcattaca gcctatgcta actcagtttt taacatattt caggcagtca  
241 gttetaacat taacagattg ttgactatcg acagcaatgt gtgtaacaat gtagtgta  
301 aaactctca aagagaattg tatgacaact gctacaggtc atcaagtgtc gacgaacaag  
361 tcatagacaa gtatac

//

LOCUS    MN312308            373 bp    RNA    linear    VRL 07-NOV-2019  
DEFINITION    Bat coronavirus HKU10 isolate 7546 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION    MN312308

VERSION      MN312308

KEYWORDS     .

SOURCE      Bat coronavirus HKU10

ORGANISM     Bat coronavirus HKU10

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Decacovirus.

REFERENCE    1 (bases 1 to 373)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Origin and cross-species transmission of bat coronaviruses in China

JOURNAL      Unpublished

REFERENCE    2 (bases 1 to 373)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Direct Submission

JOURNAL      Submitted (13-AUG-2019) Key laboratory of special pathogens and  
                  biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
                  Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

source            1..373  
                  /organism="Bat coronavirus HKU10"  
                  /mol\_type="genomic RNA"



/isolate="7546"  
/host="Hipposideros pomona"  
/db\_xref="taxon:1244203"  
/country="Laos"  
gene <1..>373  
/gene="RdRp"  
CDS <1..>373  
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/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
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/translation="CDRALPNMIRMISAMILGSKHTTCCTTDERYYRLCNELAQVLTE  
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QRELYDNCYRSSSVDEQVIDKY"

#### ORIGIN

1 atgtgataga gcattgceca acatgatacg catgatttct gctatgattc ttggttctaa  
61 acatacgaca tgtgtacca cccatgagcg gtattacagg ttgtgcaatg aactggctca  
121 agttttgaca gaagtcgtgt attctaattgg tggttttat ttaaacctg gtggtactac  
181 atctggtgat gcatctacag cctatgctaa ctcaagtttt aatatattc aggcagtcag  
241 ttctaacatt aacagattgt tgactatcga cagcaatgtg tgtaacaatg ttagtgtcaa  
301 aactcttcaa agagaattgt atgacaactg ctacaggtca tcaagtgtcg acgacaagt  
361 catagacaag tat

//

LOCUS MN312309 370 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat alphacoronavirus isolate 7548 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312309

VERSION MN312309

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..370

/organism="Bat alphacoronavirus"

/mol\_type="genomic RNA"

/isolate="7548"

/host="Miniopterus sp."

/db\_xref="taxon:2419667"

/country="Laos"

gene <1..>370  
/gene="RdRp"  
CDS <1..>370  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87929"  
/translation="CDRALPNMIRMISAMILGSKHVNCCTASDRYYRLCNELAQVLTE  
VVHNSGGFYMKPGGTTSGDATTAYANSVFNIFQAVSANINRILGINSNTCNNLTVKSI  
QRMLYDNCYRTSAVDSGFVDT"

ORIGIN

1 aatgtgatag agcaacttct aatatgatac gtatgatatac agccatgatt cttggttcta  
61 aacatgtaa ctgtgtact gcctctgata ggtattatcg cctttgtaat gagttggctc  
121 aggttcttac tgaagtcgtc cattcaaatg gtgggttcta tatgaaacct ggcggtacta  
181 ctcttggtga tgccacaaca gcttatgcta attctgtgtt taacatttcc caagctgtta  
241 gtgccaatat taatcgata ttgggcatta atagcaatac atgtaataac cttactgtta  
301 agtctataca gcgtatgtg tacgacaatt gttatcgtac ttctgctgtt gactctgget  
361 ttgtcgacac

//

LOCUS MN312310 376 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU10 isolate 7549 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312310

VERSION MN312310

KEYWORDS .

SOURCE Bat coronavirus HKU10

ORGANISM Bat coronavirus HKU10

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Decacovirus.

REFERENCE 1 (bases 1 to 376)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 376)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..376  
/organism="Bat coronavirus HKU10"  
/mol\_type="genomic RNA"  
/isolate="7549"  
/host="Hipposideros pomona"  
/db\_xref="taxon:1244203"  
/country="Laos"

gene <1..>376  
/gene="RdRp"

CDS <1..>376  
/gene="RdRp"  
/codon\_start=3

/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87930"  
/translation="CDRALPNMIRMISAMILGSKHTTCCTTDERYYRLCNELAQVLTE  
VVYSNGGFYFKPGGTTSGDASTAYANSVFNIFQAVSSNINRLLTIDSNVCNNVSVKTL  
QRELYDNCYRSSSVDEQLIDKY"

ORIGIN

1 aatgtgatag agcattgcc aacatgatac gcatgattc tgctatgatt ctgggttcta  
61 aacacacgac atgtgtacc accgatgagc ggtattacag attgtgcaat gaactggctc  
121 aagttttgac agaagtcgtg tattctaagtg gggccttta ttcaaacct ggtggtacta  
181 catctgggtga tgcactaca gcctatgcta actcagtttt taacatattt caggcagtca  
241 gtctaacat taacagattg ttgactatcg acagcaatgt gtgtaataat gttagtgtca  
301 aaactctca aagagaattg tatgacaact gctacaggtc atcaaggtgc gacgaacagc  
361 tcatagacaa gtatta

//

LOCUS MN312311 380 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU10 isolate 7557 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312311

VERSION MN312311

KEYWORDS .

SOURCE Bat coronavirus HKU10

ORGANISM Bat coronavirus HKU10

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Decacovirus.

REFERENCE 1 (bases 1 to 380)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 380)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..380

/organism="Bat coronavirus HKU10"

/mol\_type="genomic RNA"

/isolate="7557"

/host="Hipposideros pomona"

/db\_xref="taxon:1244203"

/country="Laos"

gene <1..>380

/gene="RdRp"

CDS <1..>380

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87931"

/translation="KCDRALPNMIRMISAMILGSKHTTCCTTDERYYRLCNELAQVLT

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LQRELYDNCYRSSSVDEQIIDKYT"

ORIGIN

1 aaatgtgata gagcattgcc caacatgata cgcgatgatt ctgctatgat tcttggttct  
61 aacatacga catgtgtac caccgatgag cggattaca ggtgtgcaa tgaactggct  
121 caagtttga cagaagtcgt gtattctaatt ggtggtttt attttaaac tggtggtact  
181 acatcggtg atgcatctac agcctatgct aactcagttt ttaatatt tcaggcagtc  
241 agttctaaca ttaacagatt gttgactatc gacagcaatg tgtgtaacaa tgtagtgc  
301 aaaactcttc aaagagaatt gtatgacaac tgctacaggt catcaagtgt cgacgaacag  
361 atcatagaca agtatacggga

//

LOCUS MN312312 376 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU10 isolate 7560 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312312

VERSION MN312312

KEYWORDS .

SOURCE Bat coronavirus HKU10

ORGANISM Bat coronavirus HKU10

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Decacovirus.

REFERENCE 1 (bases 1 to 376)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 376)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..376

/organism="Bat coronavirus HKU10"  
/mol\_type="genomic RNA"  
/isolate="7560"  
/host="Hipposideros pomona"  
/db\_xref="taxon:1244203"  
/country="Laos"

gene <1..>376

/gene="RdRp"

CDS <1..>376

/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87932"  
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VVYSNGGFYFKPGGTTSGDASTAYANSVFNIFQAVSSNINRLLTIDSNVCNNVSVKTL  
QRELYDNCYRSSSVDEQVIDKYT"

ORIGIN

1 aatgtgatag agcattgccc aacatgatac gcatgatttc tgctatgatt ctgggttcta  
61 aacacacgac atgtgtgacc accgatgagc ggtattacag attgtgcaat gaactggctc  
121 aagttttgac agaagtcgtg tattctaattg gttggcttta ttcaaacct ggtggtacta  
181 catctggtga tgcactaca gcctatgcta actcagtttt taacatatt caggcagtc

241 gttctaacaat taacagattg ttgactatcg acagcaatgt gtgtaataat gttagtgtca  
301 aaactcttca aagagaattg tatgacaact gctacaggtc atcaagtgtc gacgaacaag  
361 tcatagacaa gtatac

//

LOCUS MN312313 377 bp RNA linear VRL 07-NOV-2019  
DEFINITION Miniopterus bat coronavirus HKU8 isolate 7562 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312313

VERSION MN312313

KEYWORDS .

SOURCE Miniopterus bat coronavirus HKU8

ORGANISM Miniopterus bat coronavirus HKU8

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Minunacovirus.

REFERENCE 1 (bases 1 to 377)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 377)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..377

/organism="Miniopterus bat coronavirus HKU8"  
/mol\_type="genomic RNA"  
/isolate="7562"  
/host="Miniopterus fuscus"  
/db\_xref="taxon:694001"  
/country="Laos"

gene <1..>377

/gene="RdRp"

CDS <1..>377

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87933"

/translation="CDRALPNMIRMISAMILGSKHVNCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYMKPGGTTSGDATTAYANSVFNIFQAVSANINRILGINSNTCNNLTVKSL  
QRMLYDNCYRSSAVDPGFVDTYM"

ORIGIN

1 aatgtgatag agcattgcct aacatgattc gtatgattc tgctatgatt ttgggttcta  
61 agcatgtaa ttgtgtacc aattcagatc gtattatag actttgtaat gaactgcac  
121 aagttcttac tgaggtggtc tattctaacg ggggttcta tatgaagcct ggtggtacta  
181 ctctggtga tgccactact gcctatgcta attctgttt caacatattc caggctgta  
241 gtgccaatat taataggatt ttgggtatta atagtaatac ctgtaataat ctactgta  
301 agtcactca gcgcagcgtt tatgacaatt gttatagaag ttctgccgtt gatcctggtt  
361 ttgttgatac gtatatg

//

LOCUS MN312314 378 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU10 isolate 7565 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312314

VERSION MN312314

KEYWORDS .

SOURCE Bat coronavirus HKU10

ORGANISM Bat coronavirus HKU10

Viruses; Riboviria; Nidovirales; Coronaviridae; Orthocoronavirinae; Alphacoronavirus; Decacovirus.

REFERENCE 1 (bases 1 to 378)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J., Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 378)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J., Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..378

/organism="Bat coronavirus HKU10"

/mol\_type="genomic RNA"

/isolate="7565"

/host="Hipposideros pomona"

/db\_xref="taxon:1244203"

/country="Laos"

gene <1..>378

/gene="RdRp"

CDS <1..>378

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87934"

/translation="CDRALPNMIRMISAMILGSKHTTCCTTDERYYRLCNELAQVLTE

VVYSNGGFYFKPGGTTSGDASTAYANSVFNIFQAVSSNINRLLTIDSNVCNNVSVKTL

QRELYDNCYRSSSVDEQVIDKYT"

ORIGIN

1 aatgtgatag agcattgcc aacatgatac gcatgattc tgctatgatt cttggttcta  
61 aacatacgac atgttgacc accgatgagc ggtattacag gttgtgcaat gaactggctc  
121 aagttttgac agaagtcgtg tattctaagtg gtggttttta ttttaaacct ggtggacta  
181 catctggtga tgcactaca gcctatgcta actcagttt taatatatt caggcagtca  
241 gtctaacat taacagattg ttgactatcg acagcaatgt gtgtaacaat gtagtgctca  
301 aaactctca aagagaattg tatgacaact gctacaggtc atcaagtgtc gacgaacaag  
361 tcatagaaa gtatacgg

//

LOCUS MN312315 375 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU10 isolate 7589 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312315

VERSION MN312315

KEYWORDS .

SOURCE Bat coronavirus HKU10

ORGANISM Bat coronavirus HKU10

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Decacovirus.

REFERENCE 1 (bases 1 to 375)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 375)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..375

/organism="Bat coronavirus HKU10"

/mol\_type="genomic RNA"

/isolate="7589"

/host="Hipposideros pomona"

/db\_xref="taxon:1244203"

/country="Laos"

gene <1..>375

/gene="RdRp"

CDS <1..>375

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87935"

/translation="KCDRALPNMIRMISAMILGSKHTTCCTTDERYYRLCNELAQVLT

EVVYSNGGFYFKPGGTTSGDASTAYANSVFNIFQAVSSNINRLLTIDSNVCNNVSVKT

LQRELYDNCYRSSSVDEQVIDKY"

ORIGIN

1 aaatgtgata gagcattgcc caacatgata cgcgatgatt ctgctatgat tcttggttct  
61 aaacatacga catggtgtac caccgatgag cggattaca ggtgtgcaa tgaactggct  
121 caagtttga cagaagtcgt gtattctaatt ggtggtttt attttaaacc tgggtgtact  
181 acatctggtg atgcatctac agcctatgct aactcagttt ttaatatt tcaggcagtc  
241 agttctaaca ttaacagatt gttgactatc gacagcaatg tgtgtaacaa tgtagtgct  
301 aaaactcttc aaagagaatt gtatgacaac tgctacaggt catcaagtgt cgacgaacaa  
361 gcatagaca agtat

//

LOCUS MN312316 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 7683 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312316

VERSION MN312316

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES

Location/Qualifiers

source 1..402  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="7683"  
/host="unknown"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>402  
/gene="RdRp"  
CDS <1..>402  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87936"  
/translation="RALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEVV  
YSNGGFYLKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKDLQR  
SLYDNCYRTSTVDPAFVDTFYGYLRKHFSSMMI"

ORIGIN

1 agagcattgc ctaatatgat tcgtatgata tccgcatga ttttgggttc taagcatgag  
61 aattgttga ccaacttga tcgtattat agactatga atgagtagc tcaagtgcta  
121 actgagtag tctattctaa tggtggttt tatttaaac cagtggttac tacatcgggt  
181 gatgcaacga cggttatgc caactctgtg ttaatatct tcaagcagt tagtgtaac  
241 attaacgca tactggcgt taatagcaat acttgaata acttaacagt taaagattg  
301 cagcgtcgt tgtatgaaa ttgtatcgc actagcactg tagaccctgc cttttagac  
361 acgtttatg gtacttacg caaacattc tctatgatga tt

//

LOCUS MN312317 397 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 7694 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312317

VERSION MN312317

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1  
Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 397)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China



JOURNAL Unpublished

REFERENCE 2 (bases 1 to 397)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..397

/organism="Bat coronavirus 1"

/mol\_type="genomic RNA"

/isolate="7694"

/host="Miniopterus sp."

/db\_xref="taxon:2042696"

/country="China"

gene <1..>397

/gene="RdRp"

CDS <1..>397

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87937"

/translation="ALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEVVY

SNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKDLQRS

LYDNCYRTSTVDPAFVDTFYGYLRKHFSMM"

ORIGIN

1 agcattgct aatatgattc gtatgatc cgccatgatt ttgggtcca agcatgagaa

61 ttgtgtacc aactctgac gttattatag actatgcaat gagttagctc aagtgctaac

121 tgaggtagtc tattctaag gtggtttta ttaaaacca ggtgttacga catcgggtga

181 tgcaacgacg gcttatgcca actctgtgtt taatatctt caagcagtc gtgctaaca

241 taatcgata ctggcggtta atagcaatac ttgtaataac ttaacagta aagattgca

301 gcgctcgtg tatgacaatt gttatcgac tagcactgta gaccctgcct tttagacac

361 gtttatggc tacttacgca aacattctc tatgatg

//

LOCUS MN312318 403 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7700 RNA-dependent RNA

polymerase (RdRp) gene, partial cds.

ACCESSION MN312318

VERSION MN312318

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 403)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 403)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..403  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="7700"  
/host="Rhinolophus affinis"  
/db\_xref="taxon:693998"  
/country="China"  
gene <1..>403  
/gene="RdRp"  
CDS <1..>403  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87938"  
/translation="CDRAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNE  
VVHSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKL  
QRSIYDNCYRSSAVDDNVVTEFYNYLKKHFSM"

ORIGIN

1 tgtgatagag ctatgcctag tatgatccgc atgcttgctg ctatggttct tggatcaaag  
61 catgttacat gttgtacaga cagtgatagg tttacagac tttctaatga acttgcacaa  
121 gttcttaatg aggtgtgaca ttccaatgga ggttttatg taaaaccggt tggcactaca  
181 tcaggtgatg ctacaactgc ttatgcaaac tctgtcttta atatttcca ggcaggttagc  
241 tctaacatta atagacttct ttctgttgat agtaatgtgt gtaacaattt atatgtaaaa  
301 aagcttcagc gctctatcta tgataattgt tatagatcta gtgctgttga tgacaatgtt  
361 gttacagaat ttataacta tcttaagaag catttctcta tga

//

LOCUS MN312319 398 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7703 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312319

VERSION MN312319

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 398)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 398)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..398

/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="7703"  
/host="Rhinolophus sp."  
/db\_xref="taxon:693998"  
/country="China"  
gene <1..>398  
/gene="RdRp"  
CDS <1..>398  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87939"  
/translation="RAMPSMIRMLAAMVLGSKHVTCCTSDRFYRLSNELAQVLNEVV  
HSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQR  
SIYDNCYRSSAVDDNVVTEFYNYLKKHFSM"

#### ORIGIN

1 agagctatgc ctagtatgat tcgcatgctt gctgctatgg ttcttgatc aaagcatgtt  
61 acatgttgta cagacagtga taggttttac agactttcta atgaacttgc acaagtctt  
121 aatgaggttg tacattccaa tggaggtttc tatgtaaaac ccggtggcac tacatcaggt  
181 gatgctacaa ctgcttatgc aaactctgtc tttaatattt tccaggcagt tagctcctaat  
241 attaataggc ttcttctgt tgatagtaat gtgtgtaaca atttatatgt caaaaagctt  
301 cagcgtccta tctatgacaa ctgttataga tctagtctg ttgatgacaa tgttgttaca  
361 gaattttata actatcttaa gaagcatttt tctatgat

//

LOCUS MN312320 398 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7874 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.  
ACCESSION MN312320  
VERSION MN312320  
KEYWORDS .  
SOURCE Rhinolophus bat coronavirus HKU2  
ORGANISM Rhinolophus bat coronavirus HKU2  
Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.  
REFERENCE 1 (bases 1 to 398)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 398)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..398  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="7874"  
/host="Rhinolophus affinis"  
/db\_xref="taxon:693998"

gene /country="China"  
<1..>398  
/gene="RdRp"  
CDS <1..>398  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87940"  
/translation="AMPSLIRMLAAMVLGSKHVTCCTSDRFYRLSNELAQVLNEVVH  
SNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQRS  
IYDNCYRSSAVDDTVVTDVFYNYLKKHFSMM"

#### ORIGIN

1 agctatgcct agtttgatac gtatgcttgc tgctatgggt cttggatcta agcacgttac  
61 atgttgatac gacagtatac ggttttacag actttctaata gaactgtctc aagttcttaa  
121 tgaagttgtg cattctaata gaggttttta tgtaaaccac ggtggcacca catcaggtga  
181 tgctacgact gcttatgcaa attctgtttt taacatcttt caggcagtta gctctaata  
241 taacaggctt ctttctgttg atagtaatgt gtgtaacaat ttgtatgtca aaaagctcca  
301 gcgctctatc tatgacaatt gttataggtc tagtgctgtt gatgacactg ttgttacaga  
361 cttttataac tatcttaaga agcacttttc tatgatga

//

LOCUS MN312321 400 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7895 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312321

VERSION MN312321

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 400)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 400)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..400  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="7895"  
/host="Rhinolophus affinis"  
/db\_xref="taxon:693998"  
/country="China"

gene <1..>400  
/gene="RdRp"

CDS <1..>400  
/gene="RdRp"

/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87941"  
/translation="RAMPSMIRMLAAMVLGSKHVTCTDSDRFYRLSNELAQVLNEVV  
HSNGGFYVKPGGTTSGDATTAAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQR  
SIYDNCYRSSAVDDTVVTDFFNYLKKHFSMM"

ORIGIN

1 agagctatgc ctagtatgat acgtatgctt getgctatgg ttcttgatc taagcacgtt  
61 acatgttga cagacagtga taggtttac agactttcta acgagcttgc gcaagtctt  
121 aatgaagttg tgcattctaa cggagggttt tatgtaaaac ctggtggcac tacatcaggt  
181 gatgctacaa ctgcttatgc aaattctgtt ttaacatct ttcaggcagt tagctctaac  
241 attaataggc ttctttctgt tgatagtaat gtgtgtaaca acttgtatgt caaaaagctt  
301 cagcgctcta tctatgacaa ttgttatagg tctagtgtg ttgatgacac tgttgttaca  
361 gacttctaca actatcttaa gaagcatttt tctatgatga

//

LOCUS MN312322 395 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7896 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312322

VERSION MN312322

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 395)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 395)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..395

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="7896"

/host="Rhinolophus sp."

/db\_xref="taxon:693998"

/country="China"

gene <1..>395

/gene="RdRp"

CDS <1..>395

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87942"

/translation="RAMPSMIRMLAAMVLGSKHVTCTDSDRFYRLSNELAQVLNEVI  
HSNGGFYVKPGGTTSGDATTAAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQR

SIYDNCYRSSAVDDNVVTEFYNYLKKHFS"

ORIGIN

1 agagctatgc ctagtatgat ccgcatgctt gctgctatgg ttcttggatc aaagcatgtt  
61 acatgttgta cacagactga taggttttac agacttteta atgaacttgc acaagtctt  
121 aatgaggtta tacattccaa tggagggttt tatgtaaac ccggtggcac tacatcaggt  
181 gatgctacaa ctgcttatgc aaactctgtc ttaatatatt tccaggcagt tagctctaac  
241 attaatagac ttctttctgt tgatagtaat gtgtgtaaca atttatatgt aaaaaagctt  
301 cagcgtctta tctatgataa ttgttataga tctagtgtcg ttgatgacaa tgttgttaca  
361 gaattttata actatcttaa gaagcatttc tctat

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LOCUS MN312323 385 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7898 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312323

VERSION MN312323

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 385)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 385)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..385

/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="7898"  
/host="Rhinolophus affinis"  
/db\_xref="taxon:693998"  
/country="China"

gene <1..>385

/gene="RdRp"

CDS <1..>385

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87943"

/translation="WDYPKCDRAMP MIRMLAAMVLGSKHVTCCTDSDRFYRLSNELA  
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YVKKLQRSIYDNCYRSSAVDDTVVTD"

ORIGIN

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61 ggttcttggg tctaagcacg ttacatgttg tacagacagt gataggtttt acagactttc  
121 taacgaactt gcgcaagttc ttaatgaagt tgtgcattct aacggagggt tttatgtaa

181 acctggtggc actacatcag gtgatgctac aactgcttat gcaaattctg ttttaacat  
241 ctttcaggca gtagcteta acattaatag gcttcttct gttgatagta atgtgtgtaa  
301 caactgtat gtcaaaaage ttcagegctc tatctatgac aattgttata ggtctagtgc  
361 tgttgatgac actgttgta cagac

//

LOCUS MN312324 393 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7899 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312324

VERSION MN312324

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 393)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 393)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..393

/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="7899"  
/host="Rhinolophus sp."  
/db\_xref="taxon:693998"  
/country="China"

gene <1..>393  
/gene="RdRp"

CDS <1..>393  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87944"  
/translation="RAMPSMIRMLAAMVLGSKHVTCTDSDFYRLSNELAQVLNEVI  
HSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQR  
SIYDNCYRSSAVDDNVVTEFYNYLKKHFS"

ORIGIN

1 agagctatgc ctatgatgat ccgcatgctt gctgctatgg ttcttgatc aaagcatgtt  
61 acatgttgta cagacagtga taggttttac agactttcta atgaacttgc acaagttctt  
121 aatgaggta tacattccaa tggaggtttt tatgtaaac ccggtggcac tacatcaggt  
181 gatgctacaa ctgcttatgc aaactctgtc tttaatattt tccaggcagt tagctctaac  
241 attaatagac ttctttctgt tgatagtaat gtgtgtaaca atttatatgt aaaaaagctt  
301 cagcgetcta tetatgataa ttgttataga tctagtctgt ttgatgacaa tgttgttaca  
361 gaattttata actatcttaa gaagcatttc tct

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LOCUS MN312325 409 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7901 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312325

VERSION MN312325

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..409

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="7901"

/host="Rhinolophus affinis"

/db\_xref="taxon:693998"

/country="China"

gene <1..>409

/gene="RdRp"

CDS <1..>409

/gene="RdRp"

/codon\_start=1

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QRSIYDNCYRSSAVDDTVVTDVDFYNYLKKHFSMMI"

ORIGIN

1 tgtgatagag ctatgcctag tatgatacgt atgcttgctg ccatggttct tggatctaag  
61 cacgttacat gttgtacaga cagtgatagg tttacagac ttctaacga acttgcgcaa  
121 gttcttaatg aggttgtgca ttctaatgga ggtttttatg taaaacctgg tggcactaca  
181 tcaggtgatg ctacaactgc ttatgcaaat tctgtttta acattttca ggcagttagc  
241 ttaacatta acaggcttct ttctgttgat agtaatgtgt gtaacaactt gtatgtcaaa  
301 aagcttcagc gctctatcta tgacaattgt tataggtcta gtgctgttga tgacactgtt  
361 gttacagact tctacaacta tcttaagaag catttttcta tgatgatte

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LOCUS MN312326 351 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7902 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312326

VERSION MN312326



KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 351)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 351)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..351

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="7902"

/host="Rhinolophus affinis"

/db\_xref="taxon:693998"

/country="China"

gene <1..>351

/gene="RdRp"

CDS <1..>351

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87946"

/translation="AMPSMIRMLAAMVLGSKHVTCTDSDRFYRLSNELAQVLNEVVH

SNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQRS

IYDNCYRSSAVDDTV"

ORIGIN

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121 gaagttgtgc attctaacgg aggtttttat gtaaacctg gtggcactac atcagtgat  
181 gctacaactg cttatgcaaa ttctgtttt aacatcttcc aggcagttag ctctaact  
241 aatagcttc ttctgttga tagtaattg tgaacaact tgtatgcaa aaagcttcag  
301 cgctctatct atgacaattg ttataggtct agtgctgttg atgacactgt t

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LOCUS MN312327 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7904 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312327

VERSION MN312327

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 402)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers  
source 1..402  
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/isolate="7904"  
/host="Rhinolophus affinis"  
/db\_xref="taxon:693998"  
/country="China"  
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CDS <1..>402  
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#### ORIGIN

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241 attaacaggc ttctttctgt tgatagtaat gtgtgtaaca acttgatgt caaaaagctt
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361 gactctaca actatctaa gaagcattt tctatgatga tt
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LOCUS MN312328 400 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7913 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312328

VERSION MN312328

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 400)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 400)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..400

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="7913"

/host="Rhinolophus affinis"

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/country="China"

gene <1..>400

/gene="RdRp"

CDS <1..>400

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ORIGIN

1 agagctatgc ctatgatgat acgtatgctt gctgctatgg ttcttgatc taagcacgtt  
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241 attaataggc ttcttctgt tgatagtaat gtgtgtaaca acttgatgt caaaaagctt  
301 cagcgtccta tctatgacaa ttgttatagg tctagtgtg ttgatgacac tgtgttaca  
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LOCUS MN312329 399 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7915 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312329

VERSION MN312329

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
source            1..399  
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CDS                <1..>399  
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#### ORIGIN

1 tagagctatg cctagatga tacgtatgct tgetgctatg gttcttggat ctaagcactg  
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241 cattaacagg ctctttctg ttgatagtaa tgtgtgtaac aactgtatg tcaaaaagct  
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361 agacttctac aactatctta agaagcattt ttctatgat

//

LOCUS    MN312330            402 bp    RNA    linear    VRL 07-NOV-2019  
DEFINITION    Bat alphacoronavirus isolate 7916 RNA-dependent RNA polymerase  
                  (RdRp) gene, partial cds.

ACCESSION    MN312330

VERSION      MN312330

KEYWORDS     .

SOURCE       Bat alphacoronavirus

ORGANISM     Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE    1 (bases 1 to 402)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Origin and cross-species transmission of bat coronaviruses in China

JOURNAL      Unpublished

REFERENCE    2 (bases 1 to 402)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Direct Submission

JOURNAL      Submitted (13-AUG-2019) Key laboratory of special pathogens and  
                  biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
                  Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

source            1..402  
                  /organism="Bat alphacoronavirus"

/mol\_type="genomic RNA"  
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/host="Rhinolophus sp."  
/db\_xref="taxon:2419667"  
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/gene="RdRp"  
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/protein\_id="QGA87950"  
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RLYDNCYRSSSVDESFIDYYGYLKKHFSMMI"

#### ORIGIN

1 agagcattac ctaacatgat ccgatgatt tctgcatga tcctagggtc taagcacacc  
61 acctgctgta acactgatga gcgctattac cgtttgta atgagttggc ccaagtgcct  
121 acggaagttg tgtactctaa tggcggtttt tatctgaaac ctggtggtac aacatctggt  
181 gatgcgacta cagcacacgc caactctgtt ttaacatct ttcaggctgt tagtgccaac  
241 attaatagac ttttgagcat agatagtaac gcttgaata acattggcgt gaaggctcta  
301 cagcgtaggt tgtacgacaa ctgctataga tcgtctagtg tagatgagtc ttttattgat  
361 gattactatg gttatcttaa aaagcacttt tctatgatga tt

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LOCUS MN312331 401 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7917 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312331

VERSION MN312331

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 401)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 401)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..401  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="7917"  
/host="Rhinolophus affinis"  
/db\_xref="taxon:693998"  
/country="China"

gene <1..>401  
/gene="RdRp"  
CDS <1..>401  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87951"  
/translation="RAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEVV  
HSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQR  
SIYDNCYRSSAVDDTVVTDVFYNYLKKHFSMM"

ORIGIN

1 atagagctat gcctagatg atacgtatgc ttgctgctat ggttcttggga tctaagcagc  
61 ttacatgttg tacagacagt gataggtttt acagacttc taacgaactt gcgcaagttc  
121 ttaatgaagt tgtgcattct aacggaggtt ttatgtaaa acctggtggc actacatcag  
181 gtgatgctac aactgcttat gcaaattctg ttttaacat ctttcaggca gttagctcta  
241 acattaatag gcttctttct gttgatagta atgtgtgtaa caactgtat gtcaaaaagc  
301 ttcagcgctc tatctatgac aattgttata ggtctagtgc tgttgatgac actgttgta  
361 cagactcta caactatctt aagaagcatt tttctatgat g

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LOCUS MN312332 408 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7918 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312332

VERSION MN312332

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..408  
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/isolate="7918"  
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/db\_xref="taxon:693998"  
/country="China"  
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CDS <1..>408  
/gene="RdRp"  
/codon\_start=1

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ORIGIN

1 tgtgatagag ctatgcctag tatgatacgt atgcttgctg ccatggttct tggatctaag  
61 cacgttacat gttgtacaga cagtgatagg ttttacagac ttctaacga acttgcgcaa  
121 gttcttaatg aggtgtgca tttaaatgga ggttttatg taaaacctgg tggcactaca  
181 tcagtgatg ctacaactgc ttatgcaaat tctgtttta acattttca ggcagttagc  
241 tctaacatta acaggcttct ttctgttgat agtaatgtgt gtaacaactt gtatgtcaaa  
301 aagcttcagc gctctatcta tgacaattgt tataggtcta gtgctgttga tgacactgtt  
361 gttacagact tctacaacta tcttaagaag catttttcta tgatgatt

//

LOCUS MN312333 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7919 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312333

VERSION MN312333

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="7919"

/host="Rhinolophus affinis"

/db\_xref="taxon:693998"

/country="China"

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/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87953"

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RSIYDNCYRSSAVDDTVVTDYFNYLKKHFSM"

ORIGIN

1 tgatagagct atgcctagta tgatacgtat gcttgctgct atggttcttg gatctaagca  
61 cgttacatgt tgacagaca gtgatagggt ttacagactt tctaacgaac ttgcgcaagt  
121 tcttaatgaa gttgtgcatt ctaacggagg tttttatgta aaacctgggtg gcactacatc  
181 aggtgatgct acaactgctt atgcaaattc tgttttaac atctttcagg cagttagctc  
241 taacattaat aggcctcttt ctgttgatag taatgtgtgt aacaactgt atgcaaaaa  
301 gcttcagcgc tctatctatg acaattgta taggtctagt gctgttgatg acactgtgtg  
361 tacagacttc tacaactatc ttaagaagca ttttctatg at

//

LOCUS MN312334 405 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7920 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312334

VERSION MN312334

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 405)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 405)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..405

/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
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/host="Rhinolophus affinis"  
/db\_xref="taxon:693998"  
/country="China"

gene <1..>405

/gene="RdRp"

CDS <1..>405

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87954"

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RSIYDNCYRSSAVDDTVVTDVFYNYLKKHFSMM"

ORIGIN

1 tgatagagct atgcctagta tgatacgtat gcttgctgct atggttcttg gatctaagca  
61 cgttacatgt tgacagaca gtgatagggt ttacagactt tctaacgaac ttgcgcaagt  
121 tcttaatgaa gttgtgcatt ctaacggagg tttttatgta aaacctgggtg gcactacatc  
181 aggtgatgct acaactgctt atgcaaattc tgttttaac atctttcagg cagttagctc



241 taacattaat aggcttctt ctgtgatag taatgtgtg aacaactgt atgtcaaaa  
301 gcttcagcgc tctatctatg acaattgta taggtctagt gctgtgatg acactgtgtg  
361 tacagacttc tacaactatc ttaagaagca ttttctatg atgat

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LOCUS MN312335 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7923 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312335

VERSION MN312335

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
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/db\_xref="taxon:693998"  
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/gene="RdRp"

CDS <1..>402

/gene="RdRp"

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/protein\_id="QGA87955"

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SIYDNCYRSSAVDDNVVTEFYNYLKKHFSMMI"

ORIGIN

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121 aatgaggttg tacattccaa tggagggttt tatgtaaac ccggtggcac tacatcaggt  
181 gatgctacaa ctgctatgc aaactctgtc ttaatatatt tccaggcagt tagctctaac  
241 attaatagac ttcttctgt tgatagtaat gtgtgtaaca atttatatgt aaaaaagctt  
301 cagcgtccta tctatgataa ttgttataga tctagtgtg ttgatgacaa tgtgttaca  
361 gaattttata actatcttaa gaagcatttc tctatgatga tt

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LOCUS MN312336 411 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7926 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312336

VERSION MN312336

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae; Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 411)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J., Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 411)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J., Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..411

/organism="Rhinolophus bat coronavirus HKU2"

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/isolate="7926"

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/db\_xref="taxon:693998"

/country="China"

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CDS <1..>411

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ORIGIN

1 tgtgatagag ctatgcctag tatgatacgt atgcttgctg ctatggttct tggatctaag  
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181 tcaggtgatg ctacaactgc ttatgcaaat tctgtttta acatcttca ggcagttagc  
241 ttaacatta acaggcttct ttctgttgat agtaatgtgt gtaacaactt gtatgtcaaa  
301 aagcttcagc gctctatcta tgacaattgt tataggtcta gtgctgtga tgacactgtt  
361 gttacagact tctacaacta tcttaagaag catttttcta tgatgattca a

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LOCUS MN312337 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7927 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312337

VERSION MN312337

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="7927"

/host="Rhinolophus sp."

/db\_xref="taxon:693998"

/country="China"

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/gene="RdRp"

CDS <1..>402

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/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87957"

/translation="RAMPSMIRMLAAMVLGSKHVTCTDSDRFYRLSNELAQVLNEVI

HSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQR

SIYDNCYRSSAVDDNVVTEFYNYLKKHFSMMI"

ORIGIN

1 agagctatgc ctagtatgat ccgcatgctt gctgctatgg ttcttgatc aaagcatgtt  
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241 attaatagac ttctttctgt tgatagtaat gtgtgtaaca atttatatgt aaaaaagctt  
301 cagcgtctta tctatgataa ttgtataga tctagtgtg ttgatgacaa tgttgttaca  
361 gaattttata actatcttaa gaagcatttc tctatgatga tt

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LOCUS MN312338 411 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7928 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312338

VERSION MN312338

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 411)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 411)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers  
source 1..411  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="7928"  
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/db\_xref="taxon:693998"  
/country="China"  
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/gene="RdRp"  
CDS <1..>411  
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QRSIYDNCYRSSAVDDTVVTDYNYLKKHFSMMI"

#### ORIGIN

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61 agcacgttac atgtgttaca gacagtgata ggtttacag actttctaac gaacttgcgc
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181 catcaggtga tgctacaact gcttatgcaa attctgttt taacatttt caggcagtta
241 gcttaacat taacaggctt cttctgttg atagtaatgt gtgtaacaac ttgtatgca
301 aaaagettca gcgctctatc tatgacaatt gttataggtc tagtgctgtt gatgacactg
361 ttgttacaga ctctacaac tatcttaaga agcattttc tatgatgatt c
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LOCUS MN312339 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7931 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312339

VERSION MN312339

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="7931"

/host="Rhinolophus sp."

/db\_xref="taxon:693998"

/country="China"

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/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87959"

/translation="RAMPSMIRMLAAMVLGSKHVTCCTSDRFYRLSNELAQVLNEVV

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ORIGIN

1 agagctatgc ctagtatgat ccgcatgctt gctgctatgg ttcttggatc aaagcatgtt  
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181 gatgctacaa ctgcttatgc aaactctgtc tttaatattt tccaggcagt tagctctaac  
241 attaatagac ttctttctgt tgatagtaat gtgtgtaaca atttatatgt aaaaaagctt  
301 cagcgtccta tctatgataa ttggtataga tctagtgtctg ttgatgacaa tgtgtgtaca  
361 gaattttata actatcttaa gaagcatttc tctatgatga tt

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LOCUS MN312340 403 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7933 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312340

VERSION MN312340

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 403)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 403)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
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                  /organism="Rhinolophus bat coronavirus HKU2"  
                  /mol\_type="genomic RNA"  
                  /isolate="7933"  
                  /host="Rhinolophus sp."  
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                  /country="China"  
gene              <1..>403  
                  /gene="RdRp"  
CDS                <1..>403  
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                  HSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQR  
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#### ORIGIN

1 agagctatgc ctagtatgat ccgcatgctt gctgctatgg ttcttgatc aaagcatgtt  
61 acatgttga cagacagtga taggtttac agactttcta atgaactgc acaagtctt  
121 aatgaggtg tacattcaa tggaggttc tatgtaaac ccggtggcac tacatcaggt  
181 gatctacaa ctgctatgc aaactctgtc ttaatatatt tccaggcagt tagctctaat  
241 attaatagc tctttctgt ttagtagtaatt gtgtgaaca atttatatgt caaaaagctt  
301 cagcgtcta tctatgaaa ctgttataga tctagtctg ttgatgaaa tgtgttaca  
361 gaatttata actatcttaa gaagcatttc tctatgatga ttc

//

LOCUS    MN312341            406 bp    RNA    linear    VRL 07-NOV-2019  
DEFINITION    Rhinolophus bat coronavirus HKU2 isolate 7935 RNA-dependent RNA  
                  polymerase (RdRp) gene, partial cds.

ACCESSION    MN312341

VERSION      MN312341

KEYWORDS     .

SOURCE       Rhinolophus bat coronavirus HKU2

ORGANISM     Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE    1 (bases 1 to 406)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Origin and cross-species transmission of bat coronaviruses in China

JOURNAL      Unpublished

REFERENCE    2 (bases 1 to 406)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Direct Submission

JOURNAL      Submitted (13-AUG-2019) Key laboratory of special pathogens and  
                  biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
                  Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

source            1..406  
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/db\_xref="taxon:693998"  
/country="China"  
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CDS <1..>406  
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RSIYDNCYRSSAVDDTVVTDVFYNYLKKHFSMM"

ORIGIN

1 gtgatagagc tatgctagt atgatacgtg tgettgtgc tatggttctt ggatctaagc  
61 acgttacatg ttgtacagac agtgataggt tttacagact ttctaacgaa cttgcgcaag  
121 ttctaatga agttgtgcat tctaacggag gttttatgt aaaacctggt ggcactacat  
181 caggtgatgc tacaactgct tatgcaaatt ctgttttaa catcttcag gcagttagct  
241 ctaacattaa taggcttctt tctgttgata gtaatgtgtg taacaacttg tatgtcaaaa  
301 agcttcagcg ctctatctat gacaattgt ataggcttag tgctgttgat gacctgttg  
361 ttacagactt ctacaactat ctaagaagc attttctat gatgat

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LOCUS MN312342 403 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat alphacoronavirus isolate 7936 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312342

VERSION MN312342

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 403)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 403)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..403  
/organism="Bat alphacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="7936"  
/host="Miniopterus sp."  
/db\_xref="taxon:2419667"  
/country="China"

gene <1..>403  
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CDS <1..>403  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87962"  
/translation="RALPNMIRMISAMILGSKHVNCCASDRYYRLCNELAQVLTEVV  
HSNGGFYMKPGGTTSGDATTAYANSVFNIFQAVSANINRILGINSNTCNNLTVKSIQR  
MLYDNCYRTSAVDSGFVDTFYGYLRKHFSMMI"

ORIGIN

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61 aactgttgta ctgcctctga taggtattat cgcccttgta atgagttggtc tcaggttctt  
121 actgaagtcg tccattcaaa tgggtggttc tatatgaaac ctggcggtac tacttctggt  
181 gatgccacaa cagcttatgc taattctgtg ttaacattt tccaagctgt tagtgccaat  
241 attaatcgta tattgggcat taatagcaat acatgtaata accttactgt taagtctata  
301 cagcgtatgt tgtacgacaa ttgtatcgt acttctgctg ttgactctgg ctttgtegac  
361 acctttatg gttatcttag gaagcacttt tctatgatga ttc

//

LOCUS MN312343 408 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 7937 RNA-dependent RNA polymerase (RdRp)

gene, partial cds.

ACCESSION MN312343

VERSION MN312343

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..408  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="7937"  
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/db\_xref="taxon:2042696"  
/country="China"

gene <1..>408  
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CDS <1..>408  
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/codon\_start=1  
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QRSLYDNCYRTSTVDPAFVDTFYGYLRKHFSSMMI"

ORIGIN

1 tgtgatagag cattgcctaa tatgattcgt atgatatccg ccatgatttt gggttccaag  
61 catgagaatt gttgtaccaa cctcgtcgtcgt tattatagac tatgcaatga gttagctcaa  
121 gtgctaactg aggtagtcta ttctaattgg ggtttttatt taaaaccagg tggtagcaca  
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241 gctaacatta atcgcatact gggcggttaat agcaatactt gtaataactt aacagttaa  
301 gattgcagc gctcgttcta tgacaattgt tatcgcaacta gcactgtaga ccctgcctt  
361 gtagacagct ttatggcta cttacgcaa catttctcta tgatgatt

//

LOCUS MN312344 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7938 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312344

VERSION MN312344

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="7938"

/host="Rhinolophus affinis"

/db\_xref="taxon:693998"

/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87964"

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SIYDNCYRSSAVDDTVVTDYFNYLKKHFSMMI"

ORIGIN

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61 acatgttga cagacagtgg taggttttac agactttcta acgaacttgc gcaagttctt  
121 aatgaggttg tgcattctaa tggaggtttt tatgtaaac ctggtggcac tacatcaggt  
181 gatgctacaa ctgcttatgc aaattctgtt ttaacattt ttcaggcagt tagctctaac  
241 attaacagge ttctttctgt tgatagtaat gtgtgtaaca acttgtatgt caaaaagctt  
301 cagcgtctta tctatgacaa ttgttatagg tctagtgtg ttgatgacac tgttgttaca  
361 gacttctaca actatcttaa gaagcatttt tctatgatga tt

//

LOCUS MN312345 418 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7939 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312345

VERSION MN312345

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 418)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 418)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..418

/organism="Rhinolophus bat coronavirus HKU2"  
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/host="Rhinolophus affinis"  
/db\_xref="taxon:693998"  
/country="China"

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/gene="RdRp"

CDS <1..>418  
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KKLQRSIYDNCYRSSAVDDTVVTDYFNYLKKHFSMMI"

ORIGIN

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61 ttggatctaa gcacgttaca tgtgtacag acagtgatag gttttacaga ctttctaacg  
121 aactgcgca agttcttaac gaagtgtgc attctaacgg aggttttat gtaaacctg

181 gtggcactac atcaggtgat gctacaactg cttatgcaaa ttctgtttt aacatctttc  
241 aggcagttag ctctaacatt aataggcttc tttctgttga tagtaatgtg tgtaacaact  
301 tgatgtcaa aaagcttcag cgctctatct atgacaattg ttataggctc agtgcgtgtg  
361 atgacactgt tgttacagac ttctacaact atcttaagaa gcattttct atgatgat

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LOCUS MN312346 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7941 RNA-dependent RNA

polymerase (RdRp) gene, partial cds.

ACCESSION MN312346

VERSION MN312346

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="7941"

/host="Rhinolophus affinis"

/db\_xref="taxon:693998"

/country="China"

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/gene="RdRp"

CDS <1..>402

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/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87966"

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HSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQR

SIYDNCYRSSAVDDTVVTDYFNYLKKHFSMMI"

ORIGIN

1 agagctatgc ctagtatgat acgtatgctt gctgctatgg ttcttgatc taagcacgtt  
61 acatgttgta cagacagtga taggttttac agactttcta acaagcttgc gcaagtctt  
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181 gatgtacaa ctgcttatgc aaattctgtt ttaacatct ttcaggcagt tagctctaac  
241 attaatagge ttcttctgt tgatagtaat gtgtgtaaca acttgatgt caaaaagctt  
301 cagcgtctta tetatgacaa ttgttatagg tctagtgtg ttgatgacac tgtgttaca  
361 gactctaca actatcttaa gaagcatttt tctatgatga tt

//

LOCUS MN312347 419 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7942 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312347

VERSION MN312347

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 419)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 419)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..419

/organism="Rhinolophus bat coronavirus HKU2"

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/isolate="7942"

/host="Rhinolophus affinis"

/db\_xref="taxon:693998"

/country="China"

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/gene="RdRp"

CDS <1..>419

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VKKLQRSIYDNCYRSSAVDDTVVTFYNYLKKHFSMM"

ORIGIN

1 gattatccta aatgtgatag agctatgcct agtatgatac gtatgcttgc tgctatggtt  
61 cttggatcta agcaggttac atgttgatac gacagtgata ggttttacag actttctaac  
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181 ggtggcacta catcaggtga tgctacaact gcttatcaa attctgttt taacatctt  
241 caggcagta gcttaacat taataggctt cttctgttg atagtaatgt gtgtaacaac  
301 ttgtatgca aaaagcttca gcgctctatc tatgacaatt gttataggtc tagtgctgtt  
361 gatgacactg ttgttacaga ctctacaac tatcttaaga agcattttc tatgatgat

//

LOCUS MN312348 401 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7944 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312348

VERSION MN312348

**KEYWORDS** .**SOURCE** Rhinolophus bat coronavirus HKU2**ORGANISM** Rhinolophus bat coronavirus HKU2Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.**REFERENCE** 1 (bases 1 to 401)**AUTHORS** Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.**TITLE** Origin and cross-species transmission of bat coronaviruses in China**JOURNAL** Unpublished**REFERENCE** 2 (bases 1 to 401)**AUTHORS** Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.**TITLE** Direct Submission**JOURNAL** Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China**FEATURES** Location/Qualifiers

source 1..401

/organism="Rhinolophus bat coronavirus HKU2"  
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/db\_xref="taxon:693998"  
/country="China"

gene &lt;1..&gt;401

/gene="RdRp"

CDS &lt;1..&gt;401

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SIYDNCYRSSAVDDTVVTDVFYNYLKKHFSMM"**ORIGIN**1 agagctatgc ctagtatgat acgtatgctt gctgctatgg ttcttggatc taagcacggt  
61 acatgttga cagacagtga taggttttac agactttcta atgagcttgc gcaagttctt  
121 aatgaagttg tgcattctaa cggaggtttt tatgtaaac ctggtggcac tacatcaggt  
181 gatgetacaa ctgctatgc aaattctgtt ttaacatct ttcaggcagt tagctctaac  
241 attaatagc ttcttctgt tgatagtaat gtgtgaaca acttgatgt caaaaagctt  
301 cagcgtcta tctatgcaa ttgtatagg tctagtgtg ttgatgacac tgttattaca  
361 gacttctaca actatcttaa gaagcatttt tctatgatga t

//

**LOCUS** MN312349 409 bp RNA linear VRL 07-NOV-2019**DEFINITION** Rhinolophus bat coronavirus HKU2 isolate 7946 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.**ACCESSION** MN312349**VERSION** MN312349**KEYWORDS** .**SOURCE** Rhinolophus bat coronavirus HKU2**ORGANISM** Rhinolophus bat coronavirus HKU2Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES

Location/Qualifiers

source 1..409  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="7946"  
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/db\_xref="taxon:693998"  
/country="China"  
gene <1..>409  
/gene="RdRp"  
CDS <1..>409  
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/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
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VVHSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKL  
QRSIYDNCYRSSAVDDTVVTDVFYNYLKKHFSMMI"

ORIGIN

1 tgtgatagag ctatgcctag tatgatacgt atgcttgctg ctatggttct tggatctaag  
61 cacgttacat gttgtacaga cagtgatagg tttacagac ttctaacga gcttgcgcaa  
121 gttctaatg aagttgtgca tctaacgga ggttttatg taaaacctgg tggcactaca  
181 tcagtgatg ctacaactgc ttatgcaaat tctgtttta acatctttca ggcagttagc  
241 ttaacatta ataggettct tctgttgat agtaatgtgt gtaacaactt gtatgtcaaa  
301 aagcttcagc gctctatcta tgacaattgt tataggtcta gtgctgttga tgacactgtt  
361 gttacagact tctacaacta tettaagaag cattttcta tgatgattc

//

LOCUS MN312350 409 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7948 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312350

VERSION MN312350

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..409

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="7948"

/host="Rhinolophus sp."

/db\_xref="taxon:693998"

/country="China"

gene <1..>409

/gene="RdRp"

CDS <1..>409

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87970"

/translation="CDRAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNE

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QRSIYDNCYRSSAVDDNVVTEFYNYLKKHFSMMI"

ORIGIN

1 tgtgatagag ctatgcctag tatgatccgc atgcttgctg ctatggttct tggatcaag  
61 catgttacat gttgtacaga cagtgatagg tttacagac tttctaatga acttgcacaa  
121 gtcttaaatg aggttataca ttccaatgga ggttttatg taaaacccgg tggcactaca  
181 tcagtgatg ctacaactgc ttatgcaaac tctgtcttta atatttcca ggcagttagc  
241 tctaacatta atagacttct ttctgttgat agtaatgtgt gtaacaattt atatgtaaaa  
301 aagcttcagc gctctatcta tgataattgt tatagatcta gtgctgttga tgacaatgtt  
361 gttacagaat ttataacta tcttaagaag catttctcta tgatgattc

//

LOCUS MN312351 381 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7949 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312351

VERSION MN312351

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 381)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 381)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
source            1..381  
                  /organism="Rhinolophus bat coronavirus HKU2"  
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                  /isolate="7949"  
                  /host="Rhinolophus affinis"  
                  /db\_xref="taxon:693998"  
                  /country="China"  
gene              <1..>381  
                  /gene="RdRp"  
CDS                <1..>381  
                  /gene="RdRp"  
                  /codon\_start=3  
                  /product="RNA-dependent RNA polymerase"  
                  /protein\_id="QGA87971"  
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KPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQRSIYDNCYR  
SSAVDDTVVTDVFYNYLKKHFSMMI"

#### ORIGIN

1 gtatgcttgc tgccatggtt ctggatceta agcacgttac atgtgtaca gacagtgata  
61 ggtttacag actttctaac gaacttgcgc aagtcttaa tgagggtgtg cattctaattg  
121 gaggttttta tgtaaacct ggtggcacta catcaggtga tgctacaact gcttatgcaa  
181 attctgtttt taacattttt caggcagtta gctctaecat taacaggctt cttctgttg  
241 atagtaattg gtgtaacaac ttgtatgtca aaaagcttca gcgctctatc tatgacaatt  
301 gttataggtc tagtgetggt gatgacactg ttgtacaga cttctacaac tatcttaaga  
361 agcatttttc tatgatgatt c

//

LOCUS    MN312352            403 bp    RNA    linear    VRL 07-NOV-2019  
DEFINITION    Rhinolophus bat coronavirus HKU2 isolate 7953 RNA-dependent RNA  
                  polymerase (RdRp) gene, partial cds.

ACCESSION    MN312352

VERSION      MN312352

KEYWORDS     .

SOURCE      Rhinolophus bat coronavirus HKU2

ORGANISM     Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE    1 (bases 1 to 403)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Origin and cross-species transmission of bat coronaviruses in China

JOURNAL      Unpublished

REFERENCE    2 (bases 1 to 403)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Direct Submission

JOURNAL      Submitted (13-AUG-2019) Key laboratory of special pathogens and  
                  biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
                  Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

source            1..403  
                  /organism="Rhinolophus bat coronavirus HKU2"



/mol\_type="genomic RNA"  
/isolate="7953"  
/host="Rhinolophus affinis"  
/db\_xref="taxon:693998"  
/country="China"  
gene <1..>403  
/gene="RdRp"  
CDS <1..>403  
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/codon\_start=1  
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HSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQR  
SIYDNCYRSSAVDDTVVTDYFNYLKKHFSMMI"

#### ORIGIN

1 agagctatgc ctagtatgat acgcatgctt gctgctatgg ttcttggatc taagcacgtt  
61 acatgttgta cagacagtga taggttctac agacttcta acgaactgc gcaagtctt  
121 aatgaagttg tgcattctaa cggaggtttt tatgtaaac ctggtggcac tacatcaggt  
181 gatgctacaa ctgcttatgc aaattctgtt ttaacattt ttcaggcagt tagctctaac  
241 attaatagc ttcttctgt tgatagtaat gtgtgaaca acttgtagc caaaaagctt  
301 cagcgtccta tctatgacaa ttgtatagg tctagtctg ttgatgacac tgttgttaca  
361 gacttctaca actatcttaa gaagcattt tctatgatga ttc

//

LOCUS MN312353 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 7955 RNA-dependent RNA polymerase (RdRp)

gene, partial cds.

ACCESSION MN312353

VERSION MN312353

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="7955"  
/host="Miniopterus sp."  
/db\_xref="taxon:2042696"

gene /country="China"  
<1..>402  
/gene="RdRp"  
CDS <1..>402  
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/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87973"  
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YSNGGFYLKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKDLQR  
SLYDNCYRTSTVDPAFVDTFYGYLRKHFSMMI"

#### ORIGIN

1 agagcattgc ctaatatgat tcgtatgata tccgcatga tttgggttc caagcatgag  
61 aattgttga ccaactctga tcgtattat agactatgca atgagttagc tcaagtgtta  
121 actgaggtag tctattctaa tgggtgtttt tatttaaac caggtggtac gacatcgggt  
181 gatgcaacga cggtctatgc caactctgtg ttcaacatct ttcaagcagt cagtgctaac  
241 attaatcgca tattgggtgt taatagcaat acttgaata acttgacagt taaagattg  
301 cagcgtcgt tgatgataa ttgtatcgc actagtactg tagaccctgc cttttagac  
361 acgtttatg gctacttacg caaacatttc tctatgatga tt

//

LOCUS MN312354 405 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7956 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312354

VERSION MN312354

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 405)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 405)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..405  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="7956"  
/host="Rhinolophus affinis"  
/db\_xref="taxon:693998"  
/country="China"

gene <1..>405  
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CDS <1..>405  
/gene="RdRp"

/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87974"  
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VVHSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKL  
QRSIYDNCYRSSAVDDTVVTDYFNYLKKHFSMM"

ORIGIN

1 tgtgatagag ctatgcctag tatgatacgt atgcttgctg ctatggttct tggatctaag  
61 cacgttacat gttgtacaga cagtgatagg ttttacagac ttttaacga acttgcgcaa  
121 gttctaatg aagttgtgca tctaacgga ggttttatg taaacctgg tggcactaca  
181 tcaggtgatg ctacaactgc ttatgcaaat tctgtttta acatctttca ggcagttagc  
241 tetaacatta ataggettct tctgttgat agtaatgtgt gtaacaactt gtatgtcaaa  
301 aagcttcagc gctctatcta tgacaattgt tataggtcta gtgctgttga tgacactgtt  
361 gttacagact tctacaacta tettaagaag catttttcta tgatg

//

LOCUS MN312355 405 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7959 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312355

VERSION MN312355

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 405)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 405)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..405

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="7959"

/host="Rhinolophus affinis"

/db\_xref="taxon:693998"

/country="China"

gene <1..>405

/gene="RdRp"

CDS <1..>405

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87975"

/translation="DRAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEV

VHSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQ

RSIYDNCYRSSAVDDTVVTDVFYNYLKKHFSMM"

ORIGIN

1 tgatagagct atgctagta tgatacgtat gcttgcctgct atggttcttg gatctaagca  
61 cgttacatgt tgacagaca gtgataggtt ttacagactt tctaacgaac ttgcgcaagt  
121 tcttaatagaa gttgtgcatt ctaacggagg tttttatgta aaacctgggtg gcactacatc  
181 aggtgatgct acaactgctt atgcaaattc tgttttaac atcttcagg cagttagctc  
241 taacattaat aggtctcttt ctgttgatag taatgtgtgt aacaacttgt atgtcaaaaa  
301 gcttcagegc tctatctatg acaattgta taggtctagt gctgttgatg acactgttgt  
361 tacagacttc tacaactatc ttaagaagca ttttctatg atgat

//

LOCUS MN312356 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7960-1 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312356

VERSION MN312356

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="7960-1"  
/host="Rhinolophus affinis"  
/db\_xref="taxon:693998"  
/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

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/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87976"

/translation="RAMPSMIRMLAAMVLGSKHVTCCTSDRFYRLSNELAQVLNEVV  
HSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQR  
SIYDNCYRSSAVDDTVVTDVFYNYLKKHFSMMI"

ORIGIN

1 agagctatgc ctagtatgat acgtatgctt getgcatgg ttcttgatc taagcacgtt  
61 acatgttgta cagacagtga taggttttac agactttcta acgaactgc gcaagtctt  
121 aatgaggttg tgcattctaa tggaggtttt tatgtaaac ctggtggcac tacatcaggt

181 gatgctacaa ctgcttatgc aaattctgtt ttaacattt ttcaggcagt tagctctaac  
241 attaacaggc tctttctgt ttagtagtaac gtgtgtaaca actgtatgt caaaaagctt  
301 cagcgtceta tctatgacaa ttgtatagg tctagtgtg ttgatgacac tttgttaca  
361 gacttctaca actatcttaa gaagcattt tctatgatga tt

//

LOCUS MN312357 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat alphacoronavirus isolate 7960-2 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312357

VERSION MN312357

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; unclassified

Alphacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat alphacoronavirus"

/mol\_type="genomic RNA"

/isolate="7960-2"

/host="Rhinolophus affinis"

/db\_xref="taxon:2419667"

/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

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/protein\_id="QGA87977"

/translation="RALPNMIRMISAMILGSKHTTCCNTDERYYRLCNELAQVLTEVV

YSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRLLSIDSNVCNNVSVKALQR

ELYDNCYRSSGIDDSFIDKYYCYLRKHFSMMI"

ORIGIN

1 agagcattac ccaacatgat tcgtatgac tcagccatga ttttgggtc caaacatata

61 acctgttgta aactgatga gcgttattac agattgtgta atgaactgc tcaagttta

121 acagaggtg tctattcaa tggcgggtt tatctaaagc ctggtgttac tacttctgt

181 gatgcaacaa cagcatatgc aaactctgtt ttaacatct tcaagctgt cagtgctaac

241 attaacaggt tactttctat cgatagtaac gtgtgtaata atgttagtgt caaagctctg

301 cagagagagt tgtatgacaa ctgttacagg tcgtcgggca tagatgatag ctttattgat

361 aagtattatt gtacttacg taacacttt tctatgatga tt

//  
LOCUS MN312358 409 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 7961 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.  
ACCESSION MN312358  
VERSION MN312358  
KEYWORDS .  
SOURCE Bat coronavirus 1  
ORGANISM Bat coronavirus 1  
Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 409)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 409)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers  
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/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="7961"  
/host="Miniopterus sp."  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>409  
/gene="RdRp"  
CDS <1..>409  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87978"  
/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKDL  
QRSLYDNCYRTSTVDPAFVDTFYGYLRKHFSMMI"

ORIGIN  
1 tgtgatagag cattgcctaa tatgattcgt atgatatccg ccatgatttt gggttccaag  
61 catgagaatt gttgaccaa ctctgatcgt tattatagac tatgtaattg gttagctcaa  
121 gtgctaactg aggtagtcta ttctaattgg ggttttatt taaaaccagg tggtagcaca  
181 tgggtgatg caacgacggc ttatgccaac tctgtgtta acattttca agcagtcagt  
241 gctaacatta atcgatact gggcgtaat agcaatactt gtaataactt aacagttaa  
301 gattgcagc gctcgttga tgataattgt tategcacta gcactgtgga cctgccttt  
361 gtagacacct tttatggta cttacgaaa catttcteta tgatgattc

//  
LOCUS MN312359 404 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7962 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312359

VERSION MN312359

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 404)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 404)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..404

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="7962"

/host="Rhinolophus affinis"

/db\_xref="taxon:693998"

/country="China"

gene <1..>404

/gene="RdRp"

CDS <1..>404

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87979"

/translation="DRAMPSMIRMLAAMVLGSKHVTCCTDSDFYRLSNELAQVLNEV

VHNSGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQ

RSIYDNCYRSSAVDDTVVTDVFYNYLKKHFSMM"

ORIGIN

1 gatagagcta tgctagtat gatacgtatg cttgctgcta tggttcttgg atctaagcac

61 gttacatggt gtacagacag tgataggttt tacagacttt ctaacgaact tgcgcaagtt

121 ctaaatgaag ttgtcattc taacggagggt ttttatgtaa aacctggtgg cactacatca

181 ggtgatgcta caactgctta tgcaaattct gttttaaca tcttcaggc agttagctct

241 aacattaata ggcttcttct tggatagatg aatgtgtgta acaactgta tgcataaaag

301 ctcagcgcct ctatctatga caattgttat aggtctagtg ctggtgatga cactgtgtgt

361 acagacttct acaactatct taagaagcat tttctatga tgat

//

LOCUS MN312360 409 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 7964 RNA-dependent RNA polymerase (RdRp)

gene, partial cds.

ACCESSION MN312360

VERSION MN312360

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..409

/organism="Bat coronavirus 1"

/mol\_type="genomic RNA"

/isolate="7964"

/host="Miniopterus sp."

/db\_xref="taxon:2042696"

/country="China"

gene <1..>409

/gene="RdRp"

CDS <1..>409

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87980"

/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE

VVYSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNLTVKDL

QRSLYDNCYRTSTVDPAFVDTFYGYLRKHFSMMI"

ORIGIN

1 tgtgatagag cattgcctaa tatgattcgt atgatatccg ccatgatttt gggttctaag  
61 catgagaatt gttgtaccaa ctctgatcgt tattatagac tatgtaatga gttagctcaa  
121 gtgctaactg aggtagtcta ttctaattgg ggttttatt taaaaccagg tggactaca  
181 tcgggtgatg caacgacggc ttatccaac tctgtgtta acatcttca agcagtcagt  
241 gctaacatta atcgcatatt gggcgtaat agcaatact gtaataact gacagttaa  
301 gattgcgac gctcgttga tgacaattgt tatcgacta gcactgtaga ccctgcctt  
361 gtagacact ttatgggta cttacgcaa catttcteta tgatgattc

//

LOCUS MN312361 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 7965 RNA-dependent RNA polymerase (RdRp)

gene, partial cds.

ACCESSION MN312361

VERSION MN312361

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified

Alphacoronavirus.

REFERENCE 1 (bases 1 to 402)



AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat coronavirus 1"

/mol\_type="genomic RNA"

/isolate="7965"

/host="Miniopterus sp."

/db\_xref="taxon:2042696"

/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87981"

/translation="RALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEVV

YSNGGFYLKPGGTTSGDATTAYANSVFNIFLAVSANINRILGVNSNTCNLTVKSLQR

SLYDNCYRTSTVDPAFVDTFYGYLRKHFSMMI"

ORIGIN

1 agagcattgc ctaatgat cggtatgata tccgcatga ttttgggttc taagcatgaa  
61 aattgttga ctaactcaga ccgttattat agactatgca acgagttggc acaggtgcta  
121 accgaggtgg tctattctaa tggcggtttt tatttaaacc caggtggtac gacatcgggt  
181 gatgcaacga cggcattatgc caattcagtg ttaacatct tctagcagc cagtgcctaac  
241 attaactgca ttttgggcgt taatagcaat acttgcaata acttgacagc taaaagttg  
301 cagcgtcttt tgatgacaa ttgtatcgc actagcactg tggaccctgc cttttagac  
361 acattttatg gtacttacg caaacattc tctatgatga tt

//

LOCUS MN312362 407 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 7966 RNA-dependent RNA polymerase (RdRp)

gene, partial cds.

ACCESSION MN312362

VERSION MN312362

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; unclassified

Alphacoronavirus.

REFERENCE 1 (bases 1 to 407)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 407)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..407  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="7966"  
/host="Miniopterus sp."  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>407  
/gene="RdRp"  
CDS <1..>407  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87982"  
/translation="DRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEV  
VYSNGGFYLPGGTTSGDATTAYANSVFNIFQAVSANINRILGINSNTCNNLTVKDLQ  
RSLYDNCYRTSTVDPAFVDTFYGYLRKHFSMMI"

ORIGIN

1 gtgatagagc attgctaata atgattcgca tgatatccgc catgattttg ggtccaage  
61 atgagaattg ttgaccaac tctgatcggtt attatagact atgcaatgag ttagtccaag  
121 tgctaactga agtagtctat tctaattggtg gtttttattt aaaaccaggt ggtacgacat  
181 cgggtgatgc aacgacggct tatgccaact cctgttttaa tatcttcaa gcagttagt  
241 ctaacattaa tgcatactg ggcattaata gcaatactg taataacta acagttaaag  
301 attgcagcg ctcgttgat gacaattggt atcgcaactag tactgtggac cctgccttg  
361 tagacaggtt ttatggttat ttacgcaaac atttctctat gatgatt

//

LOCUS MN312363 369 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU6 isolate 141208 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312363

VERSION MN312363

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 369)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 369)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..369  
/organism="Bat coronavirus HKU6"  
/mol\_type="genomic RNA"  
/isolate="141208"  
/host="Myotis ricketti"  
/db\_xref="taxon:393045"  
/country="China"  
gene <1..>369  
/gene="RdRp"  
CDS <1..>369  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87983"  
/translation="RALPNMIRMISAMILGSKHVTCCTASDRFYRLCNELAQVLTEVI  
YSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQR  
KLYDCCYRSSSVDASFVDEYW"

ORIGIN

1 agagcattac ctaatatgat tagaatgatt tccgctatga tttgggttc taagcacgct  
61 acgtgctgta ctgctagtga caggttttat agactctgta atgagttggc ccaagtctta  
121 acagaggta tctattctaa tgggtggttc tacctaaac ctggtggtac cactctggt  
181 gatgctacta ctgcatacgc caattctgtc ttaacattt tcaggcagt tagtgctaat  
241 gtcaacaggt tgcttggtgt ttagatgaac acatgcaaca atcttgaagt caagcaatta  
301 cagcgtaaagc tttatgattg ctgctacaga tcatctagtg ttgatgctag tttgtggat  
361 gagtattgg

//

LOCUS MN312364 370 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 141217 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312364

VERSION MN312364

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..370  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="141217"  
/host="Myotis ricketti"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>370  
/gene="RdRp"  
CDS <1..>370  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87984"  
/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNLTVKSL  
QRSLYDNCYRTSTVDPAFVDT"

#### ORIGIN

1 atgtgataga gcattgccta atatgattcg tatgatatcc gccatgattt tgggttctaa  
61 gcatgagaat tgtgtacta actctgaccg ttactataga ctatgcaacg agttggctca  
121 agtgctaacc gaggtagtct attctaattgg cggttttat taaaaccag gtggtacgac  
181 atcgggtgat gcaacgacgg cttatgccaa ttcagtgtt aatatcttc aagcagtcag  
241 tgtaacatt aatcgattt tgggcgtaa tagcaatact tgtaataact taacagtaa  
301 aagtttgag cgctcttgt atgacaattg ttatcgcaact agtactgtgg accctgcctt  
361 tgtagacaca

//

LOCUS MN312365 369 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 141218 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312365

VERSION MN312365

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 369)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 369)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..369  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="141218"

/host="Miniopterus pusillus"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>369  
/gene="RdRp"  
CDS <1..>369  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87985"  
/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKSL  
QRSLYDNCYRTSTVDPAFVDT"

#### ORIGIN

1 atgtgataga gcattgccta atatgattcg tatgatatcc gccatgattt tgggttctaa  
61 gcatgagaat tgtgtacta actctgaccg ttactataga ctatgcaacg agttggetca  
121 agtgctaacc gaggtagtct attctaattg cggttttat ttaaaccag gtggtacgac  
181 atcgggtgat gcaacgacgg cttatgcaa ttcagtgttt aatatcttc aagcagtcag  
241 tgctaacatt aatcgtattt tgggcgtaa tagcaatact tgtaataact taacagtaa  
301 aagtttgag cgctcttgt atgacaattg ttatgcact agtactgtgg accctgcctt  
361 ttagacac

//

LOCUS MN312366 372 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 141219 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312366

VERSION MN312366

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 372)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 372)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..372  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="141219"  
/host="Miniopterus pusillus"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>372

CDS /gene="RdRp"  
<1..>372  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87986"  
/translation="DRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEV  
VYSNGGFYLPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKSLQ  
RSLYDNCYRTSTVDPAFVDTF"

ORIGIN

1 tgatagagca ttgctaata tgattcgtat gatattgcc atgatttgg gttctaagca  
61 tgagaattgt tgtactaact ctgaccgta ctatagacta tgcaacgagt tggctcaagt  
121 gctaacagag gtagtctatt ctaatggcgg ttttattta aaaccaggtg gtacgacac  
181 gggatgca acgacggctt atgccaattc agtgttta atctttcaag cagttagtgc  
241 taacattaat cgcatttgg gcgtaaatag caatactgt aataactga cagtaaaag  
301 ttgcagcgc tctttgatg acaattgta tcgcactagt actgtggacc ctgccttgg  
361 agacacattt at

//

LOCUS MN312367 374 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 141224 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.  
ACCESSION MN312367  
VERSION MN312367  
KEYWORDS .

SOURCE Bat coronavirus HKU6  
ORGANISM Bat coronavirus HKU6  
Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 374)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 374)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers  
source 1..374  
/organism="Bat coronavirus HKU6"  
/mol\_type="genomic RNA"  
/isolate="141224"  
/host="Myotis ricketti"  
/db\_xref="taxon:393045"  
/country="China"  
gene <1..>374  
/gene="RdRp"  
CDS <1..>374  
/gene="RdRp"  
/codon\_start=1

/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87987"  
/translation="CDRALPNMIRMISAMILGSKHVTCCTASDRFYRLCNELAQVLTE  
VIYSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQL  
QRKLYDCCYRSSSVDAASFVDEY"

ORIGIN

1 tgtgatagag cattacctaa tatgattaga atgatttccg ctatgatctt gggttctaag  
61 cacgtcacat gctgtactgc tagtgacagg ttttatagac tctgtaatga gttggcccaa  
121 gtcttaacag aggttateta ttctaattgt ggtttctacc taaacctgg tggaccact  
181 tctggtgatg ctactactgc atacccaat tctgtcttta acatttcca ggcagttagt  
241 gctaattgca acaggttget tgggtgtgat agcaacacat gcaacaatct tgaagtaag  
301 caattacagc gtaagcttta tgattgctgc tacagatcat ctagtgttga tgctagttt  
361 gtggatgagt attg

//

LOCUS MN312368 359 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 141227 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312368

VERSION MN312368

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 359)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 359)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..359  
/organism="Bat coronavirus HKU6"  
/mol\_type="genomic RNA"  
/isolate="141227"  
/host="Myotis ricketti"  
/db\_xref="taxon:393045"  
/country="China"

gene <1..>359  
/gene="RdRp"

CDS <1..>359  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87988"

/translation="KCDRALPNMIRMISAMILGSKHVTCCTASDRFYRLSNELAQVLT  
EVIYSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNKCNNLEVKQ

LQRKLYDCCYRSSNVDA"

ORIGIN

1 aaatgtgata gagcattgcc taatatgatt agaattgatt cgcctatgat tttgggttct  
61 aagcatgtca cttgtgtac tgctagtac aggttctata gactctctaa cgagttggcc  
121 caagttctaa cagaggttat ctattctaatt ggtgggtttt acctcaaacc tggaggtaca  
181 acctctgggtg atgccactac tgcctacgcc aattctgtgt ttaatatttt tcaggctgtt  
241 agtgcctaatg ttaattaggt gcttgggtgt gatagcaaca aatgcaacaa cctagaagtt  
301 aagcaattac agcgtaagct ttatgattgc tgctacaggt catctaattg tgatgccag

//

LOCUS MN312369 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 512 isolate 141228 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312369

VERSION MN312369

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat coronavirus 512"

/mol\_type="genomic RNA"

/isolate="141228"

/host="Myotis ricketti"

/db\_xref="taxon:2664421"

/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87989"

/translation="RALPNMIRMISAMILGSKHVNCCSSSDRYRRLCNELAQVLTEMV

YSNGGFYVKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNNIEVKQLQR

KLYDCCYRSSSVDQSFVEEYFGYLRKHFSMMI"

ORIGIN

1 agagctttgc ccaacatgat tagaatgatt tctgcaatga tacttgggtc taagcatggt  
61 aactgctgta gttctagcga taggtactac agattgtgta acgaactagc acaagtttta  
121 acagaaatgg ttattcgaa cggtggcttt tatgtcaaac ctgggtgtac tacatctggt  
181 gatgctacaa cagcttatgc caattcagtt ttaacatat ttcaggcaac tagtgcaaat



241 gttaacgct tgttgagtgt tgatagtaat acatgtaaca acatagaagt taagcaattg  
301 cagcgttaagt tgatgattg ttgttatcga tcatcaagtg tggatcaaag tttgttgaa  
361 gactactttg gttacctcg caaacacttt tctatgatga tt

//

LOCUS MN312370 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 141230 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312370

VERSION MN312370

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat coronavirus HKU6"

/mol\_type="genomic RNA"

/isolate="141230"

/host="Myotis ricketti"

/db\_xref="taxon:393045"

/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87990"

/translation="RALPNMIRMISAMILGSKHVTCCTASDRFYRLSNELAQVLTEVI

YSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTYNNLEVKQLQR

KLYDCCYRSSDVDASFVDEYFGYLRKHFSMMI"

ORIGIN

1 agagcgttac ctaacatgat tagaatgatt tccgctatga tcttgggttc taaacatgct  
61 acttgcctga ctgctagtga caggtttat agactctcta acgagctagc ccaagtatta  
121 acggaggta tttattctaa tgggtgggtt tacctcaaac ctggaggtag tacttctggt  
181 gatgctacta ccgctatgc caactccgtg ttaacattt tcaggctgt tagtgctaat  
241 gttaatagat tgctcgggtg tgatagtaac acgtacaaca acttagaagt caagcaatta  
301 cagcgttaagc tttatgattg ctgctacagg tcatctgatg ttgatgctag tttgtgatg  
361 gactatttcg gttatctacg taagcatttt tctatgatga tt

//

LOCUS MN312371 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 141231 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.  
ACCESSION MN312371  
VERSION MN312371  
KEYWORDS .

SOURCE Bat coronavirus HKU6  
ORGANISM Bat coronavirus HKU6  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 402)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers  
source 1..402  
/organism="Bat coronavirus HKU6"  
/mol\_type="genomic RNA"  
/isolate="141231"  
/host="Myotis ricketti"  
/db\_xref="taxon:393045"  
/country="China"  
gene <1..>402  
/gene="RdRp"  
CDS <1..>402  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87991"  
/translation="RALPNMIRMISAMILGSKHVTCCTASDRFYRLCNELAQVLTEVI  
YSNGGFYLKPGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQR  
KLYDCCYRSSSVDASFVDEYFGYLRKHFSMMI"

ORIGIN  
1 agagcattac ctaatgat tagaatgatt tccgctatga ttttgggttc taagcacgtc  
61 acgtgctgta ctgctagtga caggttttat agactctgta atgagttggc ccaagtetta  
121 acagaggta tctattctaa tgggtggttc tacctaaac ctggtggtac cacttctggt  
181 gatgctacta ctgcatacgc caattctgtc ttaacattt ttcaggcagt tagtgctaat  
241 gtcaacaggt tgettgtgt tgatageaac acatgcaaca atcttgaagt caagcaatta  
301 cagcgttaagc tttatgattg ctgctacaga tcatctagtg ttgatgctag ttttgggat  
361 gagtatttg gctatctacg taagcatttt tctatgatga tt

//  
LOCUS MN312372 372 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 141233 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.  
ACCESSION MN312372

VERSION MN312372

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 372)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 372)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..372

/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="141233"  
/host="Miniopterus fuliginosus"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>372  
/gene="RdRp"

CDS <1..>372  
/gene="RdRp"  
/codon\_start=1

/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87992"  
/translation="KCDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLT  
EVVYSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKE  
LQRSLYDNCYRTSTVDPAFVDT"

ORIGIN

1 aaatgtgata gagctttgcc taatatgatt cgtatgatat ccgcatgat tttgggttct  
61 aagcatgaaa atgttgtac taactctgac cgttattata gattatgtaa cgagttggca  
121 caagtctaa ctgaagtgt ctattctaac ggcggtttt atttaaacc aggtgttacg  
181 acatcaggtg atgcaacgac agcttatgcc aattctgttt ttaatctt tcaagcagtt  
241 agtgctaaca ttaatgcat tttgggcgtt aatagcaata ctgcaataa cttgacagtt  
301 aaagagttgc aacgctcatt gtatgacaat tgtatcgca ctagtactgt tgaccctgcc  
361 ttttagaca cg

//

LOCUS MN312373 375 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 141234 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312373

VERSION MN312373

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 375)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 375)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..375

/organism="Bat coronavirus 1"

/mol\_type="genomic RNA"

/isolate="141234"

/host="Miniopterus fuliginosus"

/db\_xref="taxon:2042696"

/country="China"

gene <1..>375

/gene="RdRp"

CDS <1..>375

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87993"

/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE

VVYSNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNLTVKSL

QRSLYDNCYRTSTVDPAFVDTF"

ORIGIN

1 aatgtgatag agcattgcct aatgatgac gtatgatata tgccatgatt ttgggttcta  
61 agcatgagaa ttgtgtact aactctgacc gttactatag actatgcaac gagttggctc  
121 aagtgcctaac cgaggtgatc tattctaata ggcggtttta tttaaaccac ggtggtacga  
181 catcgggtga tgcaacgacg gcttatgcca actcagtgtt taatatcttt caagcagtta  
241 gtgctaacat taatgcatt ttgggcggtta atagcaatac ttgtaataac ttgacagtta  
301 aaagtttgca gcgctctttg tatgacaatt gttatgcac tagtactgtg gaccctgcct  
361 ttgtagacac attta

//

LOCUS MN312374 347 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU6 isolate 141240 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312374

VERSION MN312374

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified

Alphacoronavirus.

REFERENCE 1 (bases 1 to 347)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 347)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..347

/organism="Bat coronavirus HKU6"

/mol\_type="genomic RNA"

/isolate="141240"

/host="Myotis ricketti"

/db\_xref="taxon:393045"

/country="China"

gene <1..>347

/gene="RdRp"

CDS <1..>347

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87994"

/translation="CDRALPNMIRMISAMILGSKHVTCCTASDRFYRLSNELAQVLTE

VIYSNGGFYLKPGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNKCNNLEVKQL

QRKLYDCCYRSSNV"

ORIGIN

1 tgtgatagag cattgcctaa tatgattaga atgattccg ctatgattt gggttctaag  
61 catgtcactt gttgtactgc tagtgacagg ttctatagac tctctaacga gttgccc  
121 gtctaacag aggtatceta ttctaattgt ggttttacc tcaaacctgg aggtacaacc  
181 tctggtgatg ccontactgc ctacccaat tctgtgtta atattttca ggctgttagt  
241 gccaatgta ataggttget tgggttgat agcaacaaat gcaacaacct agaagttaag  
301 caattacage gtaagcttta tgattgctgc tacaggtcat ctaatgt

//

LOCUS MN312375 375 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU6 isolate 141252 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312375

VERSION MN312375

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; unclassified

Alphacoronavirus.

REFERENCE 1 (bases 1 to 375)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 375)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..375

/organism="Bat coronavirus HKU6"

/mol\_type="genomic RNA"

/isolate="141252"

/host="Myotis chinensis"

/db\_xref="taxon:393045"

/country="China"

gene <1..>375

/gene="RdRp"

CDS <1..>375

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA87995"

/translation="KCDRALPNMIRMISAMILGSKHVTCCTASDRFYRLCNELAQVLT  
EVIYSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQ  
LQRKLYDCCYRSSNVDASFVDEY"

ORIGIN

1 aaatgtgata gagcctacc taatatgatt agaatgatct ctgctatgat cttgggttct  
61 aaacatgca catgctgtac tgctagtgat aggtttata gactatgtaa tgagttggcc  
121 caagtttaa cagaagtcac ctattctaata ggtggttct atctaaacc cgggtgtact  
181 acatcgggtg atgccactac cgcatatgcc aattctgtct ttaacatctt ccaggctgtt  
241 agtgctaag tcaataggt gcttggtgt gatagtaaca catgcaacaa tctcgaagtc  
301 aagcaattac agcgtaaact ttatgattgc tgctacagat catctaagt tgatgctagt  
361 tttgtagatg agtac

//

LOCUS MN312376 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU6 isolate 141253 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312376

VERSION MN312376

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
source            1..402  
                  /organism="Bat coronavirus HKU6"  
                  /mol\_type="genomic RNA"  
                  /isolate="141253"  
                  /host="Myotis ricketti"  
                  /db\_xref="taxon:393045"  
                  /country="China"  
gene             <1..>402  
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CDS              <1..>402  
                  /gene="RdRp"  
                  /codon\_start=1  
                  /product="RNA-dependent RNA polymerase"  
                  /protein\_id="QGA87996"  
                  /translation="RALPNMIRMISAMILGSKHVTCCTASDRFYRLCNELAQVLTEVI  
                  YSNGGFYLKPGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQR  
                  KLYDCCYRSSVSDASFVDEYFGYLRKHFSMMI"

#### ORIGIN

1 agagcattac ctaatatgat tagaatgatt tccgctatga ttttgggttc taagcacgct  
61 acatgctgta ctgctagtga caggttttat agactctgta atgagttggc ccaagtctta  
121 acagaggtta tctattctaa tgggtgttc tacctaaac ctggtgttac cacttctggt  
181 gatgctacta ctgcatacgc caattctgtc ttaacattt tccaggcagt tagtgctaat  
241 gtcaacaggt tgcttgggtg ttagtagaac acctgcaaca atctgaagt caagcaatta  
301 cagcgtaaac ttatgattg ctgctacaga tcatctagtg ttgatgctag ttttgggat  
361 gagtattttg gctatctacg taagcatttt tctatgatga tt

//

LOCUS    MN312377            371 bp    RNA    linear    VRL 07-NOV-2019  
DEFINITION    Bat coronavirus 1 isolate 141255 RNA-dependent RNA polymerase  
                  (RdRp) gene, partial cds.

ACCESSION    MN312377

VERSION      MN312377

KEYWORDS     .

SOURCE      Bat coronavirus 1

ORGANISM     Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE    1 (bases 1 to 371)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Origin and cross-species transmission of bat coronaviruses in China

JOURNAL      Unpublished

REFERENCE    2 (bases 1 to 371)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Direct Submission

JOURNAL      Submitted (13-AUG-2019) Key laboratory of special pathogens and  
                  biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
                  Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

source            1..371

/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="141255"  
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/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>371  
/gene="RdRp"  
CDS <1..>371  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87997"  
/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNLTVKSL  
QRSLYDNCYRTSTVDPAFVDT"

#### ORIGIN

1 aatgtgatag agcattgcct aatatgatcc gtatgatatc cgccatgatt ttgggttcta  
61 agcatgagaa ttgtgtact aactctgacc gttattatag actatgcaac gagttggetc  
121 aagtgctaac cgagggtgct tattctaata ggcggtttta tctaaaacca ggtggtacga  
181 catcgggtga tgcaacgacg gcttatgcca atcagtggt taatatctt caagcagta  
241 gtgctaacat taatcgatt ttgggcgta atagcaatac ttgcaataac ttgacagta  
301 aaagttgca gcgctcttg tatgacaatt gttatgcac tagtactgtg gaccctgcct  
361 ttgtagacac a

//

LOCUS MN312378 370 bp RNA linear VRL 07-NOV-2019  
DEFINITION Miniopterus bat coronavirus HKU8 isolate 141256 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312378

VERSION MN312378

KEYWORDS .

SOURCE Miniopterus bat coronavirus HKU8

ORGANISM Miniopterus bat coronavirus HKU8

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Minunacovirus.

REFERENCE 1 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..370  
/organism="Miniopterus bat coronavirus HKU8"  
/mol\_type="genomic RNA"  
/isolate="141256"  
/host="Miniopterus fuliginosus"  
/db\_xref="taxon:694001"



gene /country="China"  
<1..>370  
/gene="RdRp"  
CDS <1..>370  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87998"  
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VVYSNGGFYMKPGGTTSGDATTAYANSVFNIFQAVSANINRILGINSNTCNNLAVKSL  
QRMLYDNCYRSSAVDPGFVDT"

#### ORIGIN

1 aatgtgatag agcattgcc aacatgattc gtatgattc tgctatgatt ttgggttcta  
61 agcatgtaa ttgtgtacc aattcagatc gttattatag actctgtaat gagcttgcac  
121 aagtcttac tgaagtgtc tattctaacg gtggttcta tatgaaacct ggtggtacta  
181 catctggtga tgccactaca gcttatgcta attctgtttt caacatattc caggccgta  
241 gtgctaata caacaggatt ttgggtatta atagtaatac ctgtaataat cttgctgta  
301 agtctttaca gcgtatgctt tatgacaatt gttatagaag tccgctgtc gaccctggt  
361 ttgtgatac

//

LOCUS MN312379 358 bp RNA linear VRL 07-NOV-2019  
DEFINITION Miniopterus bat coronavirus HKU8 isolate 141258 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312379

VERSION MN312379

KEYWORDS .

SOURCE Miniopterus bat coronavirus HKU8

ORGANISM Miniopterus bat coronavirus HKU8

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Minunacovirus.

REFERENCE 1 (bases 1 to 358)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 358)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..358  
/organism="Miniopterus bat coronavirus HKU8"  
/mol\_type="genomic RNA"  
/isolate="141258"  
/host="Miniopterus pusillus"  
/db\_xref="taxon:694001"  
/country="China"  
gene <1..>358  
/gene="RdRp"  
CDS <1..>358  
/gene="RdRp"

/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA87999"  
/translation="RALPNMIRMISAMILGSKHVCCTNSDRYYRLCNELAQVLTEVV  
YSNGGFYMKPGGTTSGDATTAYANSVFNIFQAVSANINRILGINSNTCNNLAVKSLQR  
MLYDNCYRSSAVDPGFV"

ORIGIN

1 agagcattgc ccaacatgat tcgtatgatt tetgctatga ttttgggttc taagcatggt  
61 aactgttgta ccaattcaga tcgttattat agactctgta atgagcttgc acaagttctt  
121 actgaagttg tctattctaa tggcggcttc tatatgaaac ctggtggtac tacatctggt  
181 gacgccacta cagcctatgc taattctgtc ttcaacatat tccaggctgt tagtgctaat  
241 attaacagga ttttgggtat taatagtaat acctgtaata atcttgctgt taagtcttta  
301 cagcgtatgc ttatgacaa ttggtataga agttccgctg tcgaccctgg ttttgggtg

//

LOCUS MN312380 364 bp RNA linear VRL 07-NOV-2019  
DEFINITION Miniopterus bat coronavirus HKU8 isolate 141260 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312380

VERSION MN312380

KEYWORDS .

SOURCE Miniopterus bat coronavirus HKU8

ORGANISM Miniopterus bat coronavirus HKU8

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Minunacovirus.

REFERENCE 1 (bases 1 to 364)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 364)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..364

/organism="Miniopterus bat coronavirus HKU8"

/mol\_type="genomic RNA"

/isolate="141260"

/host="Miniopterus fuliginosus"

/db\_xref="taxon:694001"

/country="China"

gene <1..>364

/gene="RdRp"

CDS <1..>364

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88000"

/translation="CDRALPNMIRMISAMILGSKHVCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYMKPGGTTSGDATTAYANSVFNIFQAVSANINRILGINSNTCNNLAVKSL  
QRMLYDNCYRSSAVDPGFV"

## ORIGIN

1 tgtgatag cattgccaa catgattcgt atgatttctg ctatgattt gggttctaag  
61 catgttaact gttgtacaa ttcagatcgt tattatagac tctgtaatga gcttgcaaa  
121 gttctactg aagttgtcta ttctaattggc ggcttctata tgaacctgg tggactaca  
181 tctggtagc cactacagc ctatgcta tctgtctca acatattcca ggctgtagt  
241 gctaataa acaggattt gggattaat agtaatacct gtaataatct tgctgtaag  
301 tctttacagc gtatgctta tgacaattgt tatagaagt cgcgtgcga cctggttt  
361 gttg

//

LOCUS MN312381 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 141261 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312381

VERSION MN312381

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat coronavirus 1"

/mol\_type="genomic RNA"

/isolate="141261"

/host="Miniopterus pusillus"

/db\_xref="taxon:2042696"

/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88001"

/translation="RALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEVV

YSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKSLQR

SLYDNCYRTSTVDPAFVDTFYGYLRKHFSMMI"

## ORIGIN

1 agagcattgc ctaatatgat ccgatgata tccgcatga ttttgggttc taagcatgag  
61 aattgttga ctaactctga ccgtattac agactatgca acgagttggc tcaagtgtta  
121 actgagtag tctattctaa tggcggttt tatctaaac caggtggtac gacatcgggt

181 gatgcaacga cggcttatgc caattcagtg ttaatatct tcaagcagt cagtgctaac  
241 attaatcgca tttgggcgt taatagcaat actgcaata acttaacagt taaaagttg  
301 cagcgtcttt tgatgacaa ttgtatcgc actagtactg tggaccctgc cttttagac  
361 acatttatg gtatttacg caaacatttc tctatgatga tt

//

LOCUS MN312382 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Miniopterus bat coronavirus HKU8 isolate 141262-1 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312382

VERSION MN312382

KEYWORDS .

SOURCE Miniopterus bat coronavirus HKU8

ORGANISM Miniopterus bat coronavirus HKU8

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Minunacovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Miniopterus bat coronavirus HKU8"

/mol\_type="genomic RNA"

/isolate="141262-1"

/host="Miniopterus fuliginosus"

/db\_xref="taxon:694001"

/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88002"

/translation="RALPNMIRMISAMILGSKHVNCCNSDRYYRLCNELAQVLTEVV

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MLYDNCYRSSAVDPGFVDTFYGYLRKHFSSMMI"

ORIGIN

1 agagcattgc ccaacatgat tcgtatgatt tetgctatga ttttgggttc taagcatggt  
61 aattgttgta ccaattcaga tcgtattat agactctgta atgagcttgc acaagttctt  
121 actgaagttg tctattctaa cgggtggttc tacatgaaac ctggtggtac tacatctggt  
181 gatgccacta cagcttatgc taattctgtt tcaacatat tccaggccgt tagtgctaat  
241 atcaacagga ttttgggtat taatagtaat acctgtaata atcttgctgt taagtcttta  
301 cagcgtatgc tttatgacaa ttgtataga agttccgctg tcgaccctgg ttttgtgat  
361 actttttacg gctacttgcg gaagcatttc tctatgatga tt

//

LOCUS MN312383 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 141262-2 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312383

VERSION MN312383

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronaviridae; Orthocoronavirinae; Alphacoronavirus; unclassified Alphacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J., Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J., Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="141262-2"  
/host="Miniopterus fuliginosus"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88003"  
/translation="RALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEVV  
YSNGGFYLKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKSLQR  
SLYDNCYRTSTVDPAFVDTFYGYLRKHFSMMI"

ORIGIN

1 agagcattgc ctaatgat tcgatgata tccgcatga tttgggttc taagcatgag  
61 aattgttga ctaactctga ccgtactat agactatgca acgagttggc tcaagtgcta  
121 actgaggtgg tctattctaa tggcggtttt tatctaaaac caggtggtac gacatcgggt  
181 gatgcaacga cgcttatgc caattcagt ttaatatct tcaagcagt cagtgctaac  
241 attaatgca tttgggcgt taatagcaat acttgcaata acttgacagt taaaagttg  
301 cagcgtctt tgatgacaa ttgtatcgc actagtactg tggaccctgc cttttagac  
361 acatttatg gtacttacg caaacattc tctatgatga tt

//

LOCUS MN312384 369 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 141267 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312384

VERSION MN312384

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 369)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 369)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..369

/organism="Bat coronavirus 1"

/mol\_type="genomic RNA"

/isolate="141267"

/host="Miniopterus fuliginosus"

/db\_xref="taxon:2042696"

/country="China"

gene <1..>369

/gene="RdRp"

CDS <1..>369

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88004"

/translation="KCDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLT

EVVYSNGGFYLKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKS

LQRSLYDNCYRTSTVDPAFVD"

ORIGIN

1 aaatgtgata gagcactgcc taatatgata cgtatgatat ccgcatgat tttgggttct  
61 aagcatgaaa attgtgttac caactctgac cgttattaca gactatgcaa cgagttgget  
121 caagtgctaa ctgaggtggt ctattctaata ggcgggtttt atttaaaacc aggtggtacg  
181 acatcgggtg atgcaacgac ggcttatgcc aatcagtggt ttaatatatt tcaagcagtc  
241 agtgcataca ttaatgcat tttgggcgtt aatagcaata cttgcaataa cttaacagtt  
301 aaaagtttgc agcgttcttt gtatgacaat tgttatcgca ctagtactgt ggacctgccc  
361 tttgtagac

//

LOCUS MN312385 358 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 141278 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312385

VERSION MN312385

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 358)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 358)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..358  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="141278"  
/host="Miniopterus fuliginosus"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>358  
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CDS <1..>358  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88005"  
/translation="AMILGSKHENCCTNSDRYYRLCNELAQVLTEVVYSNNGGFYLPKPG  
GTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKSLQRSLYDNCYRTST  
VDPAFVDTFYGYLRKHF"

ORIGIN

1 gccatgatt tgggttctaa gcatgagaat tgttgacta actctgaccg ttattataga  
61 ctatgcaacg agttagctca agtgctaact gagtagtct attctaattg cggttttat  
121 ttaaaccag gtggtacgac atcgggtgat gcaacgacgg cttatgcaa ttagtggtt  
181 aatattttc aagcagtcag tgctaacatt aatcgattt tgggcgtaa tagcaatac  
241 tgcaataact tgacagtaa aagtttcgag cgctcttgt atgacaattg ttatcgact  
301 agtactgtgg accctgcctt ttagacaca tttatggtt atttacgcaa acatttct

//

LOCUS MN312386 360 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 141281 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312386

VERSION MN312386

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrelío,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 360)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrelío,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..360  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="141281"  
/host="Miniopterus fuliginosus"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>360  
/gene="RdRp"  
CDS <1..>360  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88006"  
/translation="LGSKHENCCTNSDRYYRLCNELAQVLTEVVVYSNGGFYLPKGGTT  
SGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKSLQRSLYDNCYRTSTVDP  
AFVDTFYGYLRKHFSMM"

#### ORIGIN

1 ttgggttct aagcatgaga attgtgtac taactctgac cgttattata gactatgtaa  
61 cgagttggt caagtgctaa ctgaagtagt ctattctaat ggtggtttt acctaaaacc  
121 aggtggtacg acatcgggtg atgcaacgac ggcttatgcc aattcagtgt ttaatatctt  
181 tcaagcagtc agtgctaaca ttaatcgcatt ttggggcgtt aatagcaata ctgcaataa  
241 ctgacagtt aaaagtttgc agcgccttt gtagacaat tttatcgca ctagtactgt  
301 agacctgcc ttgtagaca cattttatgg ttacttacgc aacatttct ctatgatgat

//

LOCUS MN312387 362 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 141282 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.  
ACCESSION MN312387  
VERSION MN312387  
KEYWORDS .  
SOURCE Bat coronavirus 1  
ORGANISM Bat coronavirus 1  
Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.  
REFERENCE 1 (bases 1 to 362)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrelío,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 362)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,



Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..362

/organism="Bat coronavirus 1"

/mol\_type="genomic RNA"

/isolate="141282"

/host="Miniopterus fuliginosus"

/db\_xref="taxon:2042696"

/country="China"

gene <1..>362

/gene="RdRp"

CDS <1..>362

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88007"

/translation="ILGSKHENCCTNSDRYYRLCNELAQVLTEVVYSNGGFYLPKGGT

TSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKSLQRSLYDNCYRTSTVD

PAFVDTFYGYLRKHFSMM"

ORIGIN

1 gattttgggt tctaagcagc agaattgttg tactaactct gaccgttact atagactatg  
61 caacgagttg gctcaagtc taaccgaggt agtctattct aatggcgggt ttatttaaa  
121 accagtggtg acgacatcgg gtgatgcaac gacggcttat gccaatcag tgtttaatat  
181 tttcaagca gtcagtgcta acattaatcg catcttgggc gtaatagca atactgcaa  
241 taactgaca gtaaaagtt tgcagegctc tttgatgac aattgttacc gcactagtag  
301 tgtggaccct gcctttgtag acacattta tggttactta cgcaaacatt tcctatgat  
361 ga

//

LOCUS MN312388 367 bp RNA linear VRL 07-NOV-2019

DEFINITION Miniopterus bat coronavirus HKU8 isolate 141286 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312388

VERSION MN312388

KEYWORDS .

SOURCE Miniopterus bat coronavirus HKU8

ORGANISM Miniopterus bat coronavirus HKU8

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; Minunacovirus.

REFERENCE 1 (bases 1 to 367)

AUTHORS Latinne, A., Hu, B., Zhu, G., Zhang, L., Olival, K. J.,

Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 367)

AUTHORS Latinne, A., Hu, B., Zhu, G., Zhang, L., Olival, K. J.,

Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
source            1..367  
                  /organism="Miniopterus bat coronavirus HKU8"  
                  /mol\_type="genomic RNA"  
                  /isolate="141286"  
                  /host="Miniopterus pusillus"  
                  /db\_xref="taxon:694001"  
                  /country="China"  
gene              <1..>367  
                  /gene="RdRp"  
CDS                <1..>367  
                  /gene="RdRp"  
                  /codon\_start=1  
                  /product="RNA-dependent RNA polymerase"  
                  /protein\_id="QGA88008"  
                  /translation="AMILGSKHVNCCTNSDRYYRLCNELAQVLTEVVYSNGGFYMKPG  
                  GTTSGDATTAYANSVFNIFQAVSANINRILGINSNTCNNLAVKSLQRMLYDNCYRSSA  
                  VDPGFVDTFYGYLRKHFSMM"

#### ORIGIN

1 gctatgattt tgggttctaa gcatgtaac tgtgtacca attcagatcg ttattataga  
61 ctctgtaatg agcttgcaaca agttcttact gaagttgtct attctaattgg cggettctat  
121 atgaaacctg gtggtactac atctggtgac gccactacag cctatgctaa ttctgtcttc  
181 aacatatcc aggctgtag tgctaataatt aacaggattt tgggtattaa tagtaatacc  
241 tgtaataate ttctgttaa gtctttacag cgtatgcttt atgacaattg ttatagaagt  
301 tccgctgtcg accctggttt tgttgatacc ttttacggct acttgcggaa gcatttctct  
361 atgatga

//

LOCUS    MN312389            365 bp    RNA    linear    VRL 07-NOV-2019  
DEFINITION    Bat coronavirus 1 isolate 141288 RNA-dependent RNA polymerase  
                  (RdRp) gene, partial cds.

ACCESSION    MN312389

VERSION      MN312389

KEYWORDS     .

SOURCE      Bat coronavirus 1

ORGANISM    Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE    1 (bases 1 to 365)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE        Origin and cross-species transmission of bat coronaviruses in China

JOURNAL      Unpublished

REFERENCE    2 (bases 1 to 365)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE        Direct Submission

JOURNAL      Submitted (13-AUG-2019) Key laboratory of special pathogens and  
                  biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
                  Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

source            1..365  
                  /organism="Bat coronavirus 1"  
                  /mol\_type="genomic RNA"

/isolate="141288"  
/host="Miniopterus fuliginosus"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>365  
/gene="RdRp"  
CDS <1..>365  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88009"  
/translation="MILGSKHENCCTNSDRYYRLCNELAQVLTEVVYSNGGFYLPKGG  
TTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNLTVKSLQRSLYDNCYRTSTV  
DPAFVDTFYGYLRKHFSMM"

#### ORIGIN

1 atgattttgg gttctaagca tgagaattgt tgtactaact ctgaccgtta ttatagacta  
61 tgtaacgagt tggctcaagt gctaactgaa gtagtctatt ctaatggtgg ttttaccta  
121 aaaccaggtg gtacgacatc ggggtgatgca acgacggctt atgccaattc agtgtttaat  
181 atctttcaag cagtcagcgc taacattaat cgcattttgg gcgtaataag caataactgc  
241 aataacttga cagttaaag tttgcagcgc tctttgatg acaattgta tcgcactagt  
301 actgtagacc ctgcctttgt agacacattt tatggttact tacgcaaaca ttctctatg  
361 atgat

//

LOCUS MN312390 373 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 141289 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312390

VERSION MN312390

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 373)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 373)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..373  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="141289"  
/host="Miniopterus pusillus"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>373  
/gene="RdRp"  
CDS <1..>373  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88010"  
/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKSL  
QRSLYDNCYRTSTVDPAFVDTF"

ORIGIN

1 atgtgataga gcattgccta atatgatccg tatgatatcc gccatgatt tgggttctaa  
61 gcatgagaat tgtgtacta actctgaccg ttactataga ctatgtaacg agttggetca  
121 agtgctaacc gaggtagtct attctaattg cggttttat taaaaccag gtggtacgac  
181 atcgggtgat gcaacgacgg cttatgceaa ttcagtgttt aatatcttc aagcagtcag  
241 tgtaacatt aatcgattt tgggcgtaa tagcaatact tgcaataact taacagtaa  
301 aagtttgag cgctcttgt atgataattg ttatgcact agtactgtgg accctgcct  
361 tgtagacaca ttt

//

LOCUS MN312391 370 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 141290 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312391

VERSION MN312391

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..370  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="141290"  
/host="Miniopterus pusillus"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>370  
/gene="RdRp"

CDS <1..>370  
/gene="RdRp"

/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88011"  
/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKSL  
QRSLYDNCYRTSTVDPAFVDT"

ORIGIN

1 tgtgatagag cattgcctaa tatgattcgt atgatatccg ccatgatttt gggttctaag  
61 catgagaatt gttgactaa ctctgaccgt tattatagac tatgtaacga gttggctcaa  
121 gtgctaactg aggtagtcta ttctaattggc ggtttttact taaaaccagg tggtagcagc  
181 tcgggtgatg caacgacggc ttatgccaat tcagtgttta acatctttca agcagtcagt  
241 gctaacatta atcgcatttt gggcgtaat agcaatactt gcaataactt aacagttaaa  
301 agtttgacg gcctctttgta tgacaattgt tatcgcaacta gtactgtgga ccctgccttt  
361 gtacacacat

//

LOCUS MN312392 372 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 141293 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312392

VERSION MN312392

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 372)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 372)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..372

/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="141293"  
/host="Miniopterus pusillus"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>372

/gene="RdRp"

CDS <1..>372

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88012"

/translation="KCDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLT

EVVYSNGGFYLKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKS  
LQRSLYDNCYRTSTVDPAFVDT"

ORIGIN

1 aaatgtgata gagcattgcc taatatgatt cgtatgatat cgcctatgat tttgggttct  
61 aagcatgaga atgtgtgtac taactctgac cgttattata gactatgcaa cgagttggct  
121 caagtgctaa ctgaggtagt ctattctaataat ggcgggtttt acctaaaacc aggtggtacg  
181 acatcgggtg atgcaacgac ggcttatgcc aatcagtggt ttaatatatt tcaagcagtt  
241 agtgcataca ttaatcgcatt tttgggcgtt aatagcaaca cttgtaataa cttgacagtt  
301 aaaagtttgc agcgtctttt gtatgacaat ttttatcgca ctagtactgt ggaccctgcc  
361 tttgtagaca ca

//

LOCUS MN312393 376 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 141295 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312393

VERSION MN312393

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 376)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 376)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..376

/organism="Bat coronavirus HKU6"

/mol\_type="genomic RNA"

/isolate="141295"

/host="Myotis ricketti"

/db\_xref="taxon:393045"

/country="China"

gene <1..>376

/gene="RdRp"

CDS <1..>376

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88013"

/translation="CDRALPNMIRMISAMILGSKHVTCCTASDRFYRLCNELAQVLTE

VIYSNGGFYLKPGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQL

QRKLYDCCYRSSSVDFVDEYW"

ORIGIN

1 tgtgatagag cattaccta taatgattaga atgatttccg ctatgatctt ggggttctaag

61 cacgtcacat gctgtactgc tagtgacagg tttatagac tctgtaatga gttggcccaa  
121 gtcttaacag aggttatcta ttctaatggt ggtttctacc taaacctgg tgggtaccact  
181 tctgggtgat ctactactgc atacccaat tctgtcttta acattttcca ggcagttagt  
241 gctaattgca acaggttget tgggtgtgat agcaacacat gcaacaatct tgaagtcaag  
301 caattacagc gtaagcttta tgattgctgc tacagatcat ctagtgttga tgctagtttt  
361 gtggatgagt attggc

//

LOCUS MN312394 363 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 141298 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312394

VERSION MN312394

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 363)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 363)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..363

/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="141298"  
/host="Miniopterus fuliginosus"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>363

/gene="RdRp"

CDS <1..>363

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88014"

/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNLTVKSL  
QRSLYDNCYRTSTVDPAFV"

ORIGIN

1 tgtgatagag cattgcctaa tatgatccgt atgatatccg ccatgatttt gggttctaag  
61 catgagaatt gttgactaa ctctgaccgt tactatagac tatgtaacga gttggetcaa  
121 gtgetaacg aggtagtcta ttctaatggt ggttttatt taaaaccagg tggtagcaca  
181 tgggtgatg caacgacggc ttatgccaat ctagtgttta atatcttca agcagtcagt  
241 gctaacatta atcgcatatt gggcgtaat agcaatactt gcaataactt aacagtaaa

301 agtttcgacg gctctttgta tgataattgt tatcgcacta gtactgtgga ccctgccttt  
361 gta

//

LOCUS MN312395 353 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 141304 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312395

VERSION MN312395

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 353)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 353)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..353

/organism="Bat coronavirus HKU6"

/mol\_type="genomic RNA"

/isolate="141304"

/host="Myotis ricketti"

/db\_xref="taxon:393045"

/country="China"

gene <1..>353

/gene="RdRp"

CDS <1..>353

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88015"

/translation="CDRALPNMIRMISAMILGSKHVTCCTASDRFYRLCNELAQVLTE  
VIYSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQL  
QRKLYDCCYRSSSVSD"

ORIGIN

1 aatgtgatag agcattacct aatatgatta gaatgattc cgctatgac ttgggttcta  
61 agcacgtcac atgctgtact gctagtgaca ggtttatag actctgtaat gagttggctc  
121 aagtcttgac agaggttacc tattctaata gtggtttcta ccttaaacct ggtggtacta  
181 ctctggtga tgctactact gcatacgcca attctgtctt taacatttt caggcagtta  
241 gtgctaagt caacaggttg cttggtgtg atagcaaac atgcaacaat cttgaagtca  
301 agcaattaca gcgtaagctt tatgattgct gctacagatc atctagtgtt gat

//

LOCUS MN312396 374 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 141310 RNA-dependent RNA polymerase



(RdRp) gene, partial cds.  
ACCESSION MN312396  
VERSION MN312396  
KEYWORDS .  
SOURCE Bat coronavirus HKU6  
ORGANISM Bat coronavirus HKU6  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.  
REFERENCE 1 (bases 1 to 374)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 374)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..374  
/organism="Bat coronavirus HKU6"  
/mol\_type="genomic RNA"  
/isolate="141310"  
/host="Myotis ricketti"  
/db\_xref="taxon:393045"  
/country="China"  
gene <1..>374  
/gene="RdRp"  
CDS <1..>374  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88016"  
/translation="DRALPNMIRMISAMILGSKHVTCCTASDRFYRLCNELAQVLTEV  
IYSNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQ  
RKLYDCCYRSSVVDASFVDEYM"

#### ORIGIN

1 tgatagca ttacctaata tgattagaat gattccgct atgatcttg gttctaagca  
61 cgtcacatgc tgtactgcta gtgacagggt ttatagactc tgtaatgagt tggccaagt  
121 ctaacagag gttatctatt ctaatgggtg ttctacctt aacctggtg gtaccactc  
181 tggatgatg actactgcat acgccaatc tgtcttaac atttccagg cagttagtgc  
241 taatgtcaac aggttgcttg gtgtgatag caacacatgc aacaatctg aagtaagca  
301 attacagcgt aagcttatg attgctgcta cagatcatct agtgttgatg ctagtttgt  
361 ggatgagtat atgc

//

LOCUS MN312397 371 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 141312 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.  
ACCESSION MN312397  
VERSION MN312397  
KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 371)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 371)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..371

/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="141312"  
/host="Miniopterus fuliginosus"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>371

/gene="RdRp"

CDS <1..>371

/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88017"  
/translation="KCDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLT  
EVVYSNGGFYLPKGGTTS GDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKS  
LQRSLYDNCYRTSTVDP AFVDT"

ORIGIN

1 aaatgtgata gagcattgcc taatatgatc cgtatgatat ccgcatgat tttgggttct  
61 aagcatgaga attgtgtac taattctgac cgttactata gactatgcaa cgagttggct  
121 caagtgctaa ccgaggtagt ctattctaatt ggtggttttt atttaaaacc aggtggtacg  
181 acatcgggtg atgcaacgac ggcttatgcc aattcagtg ttaatatctt tcaagcagtc  
241 agtgctaaca ttaatcgcatt ttggggcgtt aatagcaata ctgcaataa cttaacagtt  
301 aaaagttgc agcgtcttt gtatgacaat tgttatcgca ctagtactgt ggaccctgcc  
361 tttgtagaca c

//

LOCUS MN312398 362 bp RNA linear VRL 07-NOV-2019

DEFINITION Miniopterus bat coronavirus HKU8 isolate 141314 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312398

VERSION MN312398

KEYWORDS .

SOURCE Miniopterus bat coronavirus HKU8

ORGANISM Miniopterus bat coronavirus HKU8

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Minunacovirus.

REFERENCE 1 (bases 1 to 362)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 362)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..362  
/organism="Miniopterus bat coronavirus HKU8"  
/mol\_type="genomic RNA"  
/isolate="141314"  
/host="Miniopterus fuliginosus"  
/db\_xref="taxon:694001"  
/country="China"  
gene <1..>362  
/gene="RdRp"  
CDS <1..>362  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88018"  
/translation="RALPNMIRMISAMILGSKHVNCCNSDRYYRLCNELAQVLTEVV  
YSNGGFYMKPGGTTSGDATTAYANSVFNIFQAVSANINRILGINSNTCNNLAVKSLQR  
MLYDNCYRSSAVDPGFVDT"

ORIGIN

1 agagcattgc ccaacatgat tcgtatgatt tctgctatga ttttgggttc taagcatggt  
61 aactgttgta ccaattcaga tcgttattat agactctgta atgagcttgc acaagttctt  
121 actgaagttg tctattctaa tggcgggttc tatatgaaac ctggcgggtac tacatctggt  
181 gacgccacta cggectatgc taattctgtc ttcaacatat tccaggctgt tagtgctaat  
241 attaacagga ttttgggtat taatagtaat acctgtaata atcttgctgt taagtcctta  
301 cagcgtatgc ttatgacaa ttgtataga agttctgctg ttgacctgg tttgtcgat  
361 ac

//

LOCUS MN312399 371 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 141315 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312399

VERSION MN312399

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1  
Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 371)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 371)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..371  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="141315"  
/host="Miniopterus fuliginosus"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>371  
/gene="RdRp"  
CDS <1..>371  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88019"  
/translation="DRALPNMIRMISAMILGFKHENCCTNSDRYYRLCNELAQVLTEV  
VYSNGGFYLPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKELQ  
RSLYDNCYRTSTVDPAFVDTF"

#### ORIGIN

1 gtgatagagc ttgcctaata atgattcgta tgatatccgc catgatttg ggttttaagc  
61 atgaaaattg ttgtactaac tctgaccgtt attatagatt atgtaacgag ttggcacaag  
121 tgctaactga agtggcttat tctaaccggcg gtttttattt aaaaccagggt ggtacgacat  
181 caggtgatgc aacgacagct tatgccaatt ctgtttttaa tatctttcaa gcagtcagtg  
241 ctaacattaa tcgcattttg ggcgtaaca gcaataactg caataactg acagttaaag  
301 agttgcaacg ctcattgtat gacaattgtt atcgactag tactgttgac cctgcctttg  
361 tagacacggt t

//

LOCUS MN312400 372 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 141317 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312400

VERSION MN312400

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 372)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 372)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..372  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="141317"  
/host="Miniopterus fuliginosus"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>372  
/gene="RdRp"  
CDS <1..>372  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88020"  
/translation="KCDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLT  
EVVYSNGGFYFKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKS  
LQRSLYDNCYRTSTVDPAFVDT"

ORIGIN

1 aaatgtgata gagcattgcc taatatgata cgtatgatat ccgcatgat tttgggttct  
61 aagcatgaga attgtgttac taactctgac cgttattata gactatgtaa cgagttggc  
121 caagtgctaa ctgaggtggc ctattcta ggcggtttt acctaaaacc aggtggtacg  
181 acatcgggtg atgcaacgac ggcttatgcc aatcagtgt ttaatattt tcaagcagtc  
241 agtgetaaca ttaatcgc atttgggcgt aatagcaata cttgcaataa cttgacagtt  
301 aaaagttgc agcgccttt gtatgacaat tgttatcgca ctagtactgt ggaccctgcc  
361 ttttagaca ca

//

LOCUS MN312401 371 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 141318 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312401

VERSION MN312401

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 371)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 371)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
 source            1..371  
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                   /mol\_type="genomic RNA"  
                   /isolate="141318"  
                   /host="Miniopterus pusillus"  
                   /db\_xref="taxon:2042696"  
                   /country="China"  
 gene              <1..>371  
                   /gene="RdRp"  
 CDS                <1..>371  
                   /gene="RdRp"  
                   /codon\_start=1  
                   /product="RNA-dependent RNA polymerase"  
                   /protein\_id="QGA88021"  
                   /translation="KCDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLT  
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 LQRSLYDNCYRTSTVDPAFVDT"

ORIGIN

1 aaatgtgata gagcattgcc taatatgata cgtatgat cgcgaatgat tttgggttct  
 61 aagcacgaga attgtgtac taactctgac cgttactata gactatgcaa cgagtggct  
 121 caagtgctaa ccgaggtagt ctattcta ggtggtttt atttaaaacc aggtggtacg  
 181 acatgggtg atgcaacgac ggcttatgcc aatcagtgt ttaatattt tcaagcagtc  
 241 agtgcataa ttaatcgc atttgggcgtt aatagcaata cttgcaataa cttgacagtt  
 301 aaaagttgc agcgtcttt gtagacaat tggtatcgca ctagtactgt ggaccctgcc  
 361 tttgtagaca c

//

LOCUS    MN312402            379 bp    RNA    linear    VRL 07-NOV-2019  
 DEFINITION    Miniopterus bat coronavirus HKU8 isolate 141319 RNA-dependent RNA  
                   polymerase (RdRp) gene, partial cds.

ACCESSION    MN312402

VERSION      MN312402

KEYWORDS     .

SOURCE      Miniopterus bat coronavirus HKU8

ORGANISM    Miniopterus bat coronavirus HKU8

Viruses; Riboviria; Nidovirales; Coronaviridae;  
 Orthocoronavirinae; Alphacoronavirus; Minunacovirus.

REFERENCE    1 (bases 1 to 379)

AUTHORS     Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
 Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE        Origin and cross-species transmission of bat coronaviruses in China

JOURNAL     Unpublished

REFERENCE    2 (bases 1 to 379)

AUTHORS     Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
 Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE        Direct Submission

JOURNAL     Submitted (13-AUG-2019) Key laboratory of special pathogens and  
 biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
 Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

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                   /organism="Miniopterus bat coronavirus HKU8"  
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                   /isolate="141319"

/host="Miniopterus fuliginosus"  
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/country="China"  
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CDS <1..>379  
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/translation="KCDRALPNMIRMISAMILGSKHVNCCTNSDRYYRLCNELAQVLT  
EVVYSNGGFYMKPGGTTSGDATTAYANSVFNIFQAVSANINRILGINSNTCNNLAVKS  
LQRMLYDNCYRSSAVDPGFVDTFT"

#### ORIGIN

1 aaatgtgata gagcattgcc caacatgatt cgtatgatt ctgctatgat ttgggttct  
61 aagcatgita actgtgttac caatcagat cgtattata gactctgtaa tgagcttgca  
121 caagttctta ctgaagtgt ctattcta ggcggcttct atatgaaacc tgggtgtact  
181 acatctggtg acgccactac agcctatgct aattctgtct tcaacatatt ccaggctgtt  
241 agtgctaata ttaacaggat ttgggttatt aatagtaata cctgtaataa tcttgctgtt  
301 aagtccttac agcgtatgct ttatgacaat tgttatagaa gttctgctgt tgaccctggt  
361 ttgttgata cttttacgc

//

LOCUS MN312403 368 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 141320 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312403

VERSION MN312403

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 368)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 368)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..368  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="141320"  
/host="Miniopterus pusillus"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>368

CDS /gene="RdRp"  
<1..>368  
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/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88023"  
/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNLTVKSL  
QRSLYDNCYRTSTVDPAFVDT"

ORIGIN

1 tgtgatagag cattgcctaa tatgatccgt atgatatccg ccatgatttt gggttctaag  
61 catgagaatt gttgactaa ctctgaccgt tattatagac tatgcaacga gttggctcaa  
121 gtgctaactg aggtggctta ttctaattga ggtttttacc taaaaccagg tggtagcaca  
181 tcgggtgatg caacgacggc ttatccaat tcagtgttta atatctttca agcagtcagt  
241 gctaacatta atcgcatttt gggegttaat agcaatactt gcaataactt gacagttaa  
301 agtttgcagc gctctttgta tgacaattgt tatcgcaacta gtactgtgga ccctgccttt  
361 gtagacac

//

LOCUS MN312404 368 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 141321 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.  
ACCESSION MN312404  
VERSION MN312404  
KEYWORDS .

SOURCE Bat coronavirus 1  
ORGANISM Bat coronavirus 1  
Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 368)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 368)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers  
source 1..368  
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/mol\_type="genomic RNA"  
/isolate="141321"  
/host="Miniopterus fuliginosus"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>368  
/gene="RdRp"  
CDS <1..>368  
/gene="RdRp"  
/codon\_start=2



/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88024"  
/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKEL  
QRSLYDNCYRTSTVDPAFVD"

ORIGIN

1 atgtgataga gctttgcta atatgattcg tatgatatcc gccatgattt tgggttctaa  
61 acatgaaaaa tgttgacta actctgaccg ttattataga ctatgtaatg agttggctca  
121 agtgctaact gaagtggctc attctaacgg cggttttat taaaaccag gtggtacgac  
181 atcaggtgat gcaacgacag cttatgcca ttctgtttt aacatcttc aagcagttag  
241 tgctaacatt aatcgtattt tgggcgttaa tagcaatact tgcaataact tgacagttaa  
301 agagttgcaa cgctcattgt atgataattg ttatcgcact agtactgttg accctgcctt  
361 ttagaca

//

LOCUS MN312405 369 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 141355 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312405

VERSION MN312405

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 369)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 369)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..369

/organism="Bat coronavirus 1"

/mol\_type="genomic RNA"

/isolate="141355"

/host="Rhinolophus sinicus"

/db\_xref="taxon:2042696"

/country="China"

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/gene="RdRp"

CDS <1..>369

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/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88025"

/translation="KCDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLT  
EVVYSNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKS

LQRSLYDNCYRTSTVDPAFVD"

ORIGIN

1 aatgtgata gagcactgcc taatatgac cgtatgatat ccgcatgat tttgggttct  
61 aagcatgaaa atgttgtac caactctgac cgttattaca gactatgcaa cgagtggct  
121 caagtgctaa ctgaggtggt ctattctaatt ggccggtttt atttaaaacc aggtggtacg  
181 acatcgggtg atgcaacgac ggcttatgcc aatcagtggt ttaatatttt tcaagcagtc  
241 agtgcataca ttaatgcat tttgggcgtt aatagcaata ctgcaataa cttaacagtt  
301 aaaagtttgc agcgttcttt gtatgacaat tgttatcgca ctagtactgt ggacctgccc  
361 tttgtagac

//

LOCUS MN312406 378 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU10 isolate 141391 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312406

VERSION MN312406

KEYWORDS .

SOURCE Bat coronavirus HKU10

ORGANISM Bat coronavirus HKU10

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Decacovirus.

REFERENCE 1 (bases 1 to 378)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 378)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..378

/organism="Bat coronavirus HKU10"  
/mol\_type="genomic RNA"  
/isolate="141391"  
/host="Hipposideros pomona"  
/db\_xref="taxon:1244203"  
/country="China"

gene <1..>378

/gene="RdRp"

CDS <1..>378

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88026"

/translation="CDRALPNMIRMISAMILGSKHTTCCTTDERYYRLCNELAQVLTE

VVYSNGGFYFKPGGTTSGDASTAYANSVFNIFQAVSSNINRLLTIDSNVCNNVSVKTL  
QRELYDNCYRSSSVDEQFIDKYY"

ORIGIN

1 aatgtgatag agcattgcct aacatgatac gcatgatctc tgctatgata cttggttcca  
61 aacacacaac atgttgtact actgatgaaa gatattatcg tttgtgcaat gagttggccc  
121 aagtgttaac agagttgtg tattctaatt gttggtttta ttttaacct ggtgttacta

181 cctcaggtga tgcttctaca gcctatgcta actcagttt taacatttc caggcagtca  
241 gtctaacat taacagattg ttgactatcg acagcaatgt ttgtaataat gttagtgtca  
301 aaactctgca aagagagttg tatgacaact gctacaggtc atcaagtgtc gacgaacaat  
361 tcatagataa atattatg

//

LOCUS MN312407 379 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU10 isolate 141392 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312407

VERSION MN312407

KEYWORDS .

SOURCE Bat coronavirus HKU10

ORGANISM Bat coronavirus HKU10

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Decacovirus.

REFERENCE 1 (bases 1 to 379)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 379)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..379

/organism="Bat coronavirus HKU10"

/mol\_type="genomic RNA"

/isolate="141392"

/host="Hipposideros pomona"

/db\_xref="taxon:1244203"

/country="China"

gene <1..>379

/gene="RdRp"

CDS <1..>379

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88027"

/translation="CDRALPNMIRMISAMILGSKHTTCCTTDERYYRLCNELAQVLTE

VVYSNGGFYFKPGGTTSGDASTAYANSVFNIFQAVSSNINRLLTIDSNVCNNVSVKTL

QRELYDNCYRSSSVDEQFIDKYYA"

ORIGIN

1 aatgtgatag agcattgcct aacatgatac gcatgatctc tgctatgata cttggtcca  
61 aacacacaac atgttgact actgatgaaa gatattatcg tttgtgcaat gagttgccc  
121 aagtgttaac agaggtgtg tattctaag gtggtttta ttttaacct ggtggtacta  
181 cctcaggtga tgcttctaca gcctatgcta actcagttt taacatttc caggcagtca  
241 gtctaacat taacagattg ttgactatcg acagcaatgt ttgtaataat gttagtgtca  
301 aaactctgca aagagagttg tatgacaact gctacaggtc atcaagtgtc gacgaacaat  
361 tcatagataa atattatg

//

LOCUS MN312408 371 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU10 isolate 141402 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.  
ACCESSION MN312408  
VERSION MN312408  
KEYWORDS .

SOURCE Bat coronavirus HKU10  
ORGANISM Bat coronavirus HKU10  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Decacovirus.  
REFERENCE 1 (bases 1 to 371)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 371)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers  
source 1..371  
/organism="Bat coronavirus HKU10"  
/mol\_type="genomic RNA"  
/isolate="141402"  
/host="Hipposideros pomona"  
/db\_xref="taxon:1244203"  
/country="China"  
gene <1..>371  
/gene="RdRp"  
CDS <1..>371  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88028"  
/translation="DYPKCDRALPNMIRMISAMILGSKHTTCCTTDERYYRLCNELAQ  
VLTEVVYSNGGFYFKPGGTTSGDASTAYANSVFNIFQAVSSNINRLLTIDSNVCNNVS  
VKTLQRELYDNCYRSSSVDEQ"

#### ORIGIN

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1 tgattatccc aaatgtgata gagcattgcc taacatgata cgcattgatct ctgctatgat
61 acttggttcc aaacacacaa catgtgttac tactgatgaa agatattatc gtttgtgcaa
121 tgagttggcc caagtgttaa cagaggttgt gtattctaat ggtggttttt attttaaacc
181 tgggtgtact acctcagtg atgcttctac agcctatgct aactcagtct ttaacattt
241 ccaggcagtc agttctaaca ttaacagatt gttgactatc gacagcaatg tttgtaataa
301 tgtagtagtc aaaactctgc aaagagagtt gtatgacaac tgctacaggt catcaagtg
361 cgacgaacaa t
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//

LOCUS MN312409 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 141404 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.  
ACCESSION MN312409  
VERSION MN312409

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat coronavirus HKU6"  
/mol\_type="genomic RNA"  
/isolate="141404"  
/host="Myotis ricketti"  
/db\_xref="taxon:393045"  
/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88029"

/translation="RALPNMIRMISAMILGSKHVTCCTASDRFYRLCNELAQVLTEVI

YSNGGFYLPKGGTTS GDATTAYANSVFNIFQAVSANVNRL LGVDSNTCNNLEVKQLQR  
KLYDCCYRSSSV DASFVDEYFGYLRKHFSMMI"

ORIGIN

1 agagcattac ctaatgatg tagaatgatt tccgctatga tcttggttc taagcagtc  
61 acatgctgta ctgctagtga caggtttat agactctgta atgagttggc ccaagtctta  
121 acagaggta tctattctaa tgggtgttc tacctaaac ctggtgttac cactctggt  
181 gatgctacta ctgcatagc caattctgtc ttaacatct ttcaggcagt tagtgctaat  
241 gtaacaggt tgcttggtgt ttagtagaac acatgcaaca atctgaagt caagcaatta  
301 cagcgtaac ttatgattg ctgctacaga tcatctagtg ttgatgctag tttgtggat  
361 gagtatttg gctatctag taagcatttt tctatgatga tt

//

LOCUS MN312410 353 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU6 isolate 141447 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312410

VERSION MN312410

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 353)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 353)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..353

/organism="Bat coronavirus HKU6"

/mol\_type="genomic RNA"

/isolate="141447"

/host="Myotis ricketti"

/db\_xref="taxon:393045"

/country="China"

gene <1..>353

/gene="RdRp"

CDS <1..>353

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88030"

/translation="CDRALPNMIRMISAMILGSKHVTCCTASDRFYRLSNELAQVLTE

VIYSNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQL

QRKLYDCCYRSSNVD"

ORIGIN

1 atgtgataga gcattgccta atatgattag aatgattcc gctatgattt tgggttctaa  
61 gcatgtcact tgtgtactg ctatgacag gttctataga ctctctaacg agttggccca  
121 agttctaaca gaggttatct attctaattg tggtttttac ctcaaactg ggggtacaac  
181 ctctggtgat gccactactg cctacgcaa ttctgtgttt aacattttc aggctgttag  
241 tgccaatgtc aataggttgc ttgtgttga tagcaacaca tgcaacaacc tagaagtcaa  
301 gcaattacag cgcaagcttt atgattgctg ctacaggtca tctaattgtg atg

//

LOCUS MN312411 367 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 141453 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312411

VERSION MN312411

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 367)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 367)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..367  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="141453"  
/host="Rhinolophus macrotis"  
/db\_xref="taxon:693998"  
/country="China"  
gene <1..>367  
/gene="RdRp"  
CDS <1..>367  
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/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88031"  
/translation="CDRAMPSMVRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNE  
VVHNSGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKL  
QRSIYDNCYRSSAVDDNVVT"

#### ORIGIN

1 tgtgatagag ctatgcctag tatggtacgt atgcttgctg ctatggttct tggatcgaag  
61 catgttaccat gttgtacaga tagtgacagg tttatagac ttctaatga acttgcgcaa  
121 gtcttaatg aggtgtgca ttctaatgga gggttttatg taaaacctgg tggcaccacg  
181 tcaggtgatg ctacaaccgc ttacgcaaat tctgtcttta acatctttca ggcagttagc  
241 tctaatatta ataggctact ttctgttgat agtaatgttt gtaacaattt gtatgtcaaa  
301 aagcttcagc gctctatcta tgacaattgt tatagatcta gtgctgttga tgacaatgtt  
361 gttacgg

//

LOCUS MN312412 311 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat alphacoronavirus isolate 12111505 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312412

VERSION MN312412

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 311)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 311)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..311  
/organism="Bat alphacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="12111505"  
/host="Myotis chinensis"  
/db\_xref="taxon:2419667"  
/country="China"  
gene <1..>311  
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CDS <1..>311  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88032"  
/translation="GSKHTTCCSSTD RYYRLCNELAQVLTEVVYSNGGFYMKPGGTTS  
GDATTAYANSVFNIFQATSANINRLLSVDSNNC>NNLGVKALQRRLYDCCYRSSHVDD  
L"

ORIGIN

1 gggttctaag catactacat gctgtagctc tacagatcgt tattacagac tatgcaatga  
61 gctggctcag gtgctcacag aggtgtgta ttccaatggt gggttctata tgaagcccgg  
121 tggtaaca tctggtgatg ccacaacagc ttatgcaaat tctgtctta acatcttca  
181 ggctactagt gcaaacatta acagactct tagtgttgac agtaataact gtaacaatct  
241 tgggtggaag gctctgcagc gtcgtttgta cgactgttgat tatagatctt ctcattgtga  
301 tgatgatctt g

//

LOCUS MN312413 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 13022314 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.  
ACCESSION MN312413  
VERSION MN312413  
KEYWORDS .

SOURCE Bat coronavirus HKU6  
ORGANISM Bat coronavirus HKU6  
Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 402)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers



source 1..402  
/organism="Bat coronavirus HKU6"  
/mol\_type="genomic RNA"  
/isolate="13022314"  
/host="Myotis sp."  
/db\_xref="taxon:393045"  
/country="China"  
gene <1..>402  
/gene="RdRp"  
CDS <1..>402  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88033"  
/translation="RALPNMIRMISAMILGSKHVTCCTASDRFYRLCNELAQVLTEVI  
YSNGGFYLKPGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQR  
KLYDCCYRSSSVDASFVDEYFGYLRKHFSMMI"

#### ORIGIN

1 agagcattac ctaatgat tagaatgatt tccgctatga tcttgggttc taagcagtc  
61 acgtgctgta ctgctagtga caggttttat agactctgta atgagttggc ccaagtctta  
121 acagaggta tctattctaa tgggtggttc tacctaaac ctggtggtac cacttctggt  
181 gatgctacta ctgcatacgc caattctgtt ttaacattt ttcaggcagt tagtgctaat  
241 gtcaacaggt tgcttggtgt tgatagcaac acatgcaata atcttgaagt caagcaatta  
301 cagcgttaagc tttatgattg ctgctacaga tcacttagtg ttgatgctag ttttgggat  
361 gagtatttg gctatctacg taagcatttt tctatgatga tt

//

LOCUS MN312414 401 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 13022317 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312414

VERSION MN312414

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 401)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 401)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..401  
/organism="Bat coronavirus HKU6"  
/mol\_type="genomic RNA"  
/isolate="13022317"

/host="Myotis ricketti"  
/db\_xref="taxon:393045"  
/country="China"  
gene <1..>401  
/gene="RdRp"  
CDS <1..>401  
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/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88034"  
/translation="RALPNMIRMISAMILGSKHVTCCTASDRFYRLCNELAQVLTEVI  
YSNGGFYLKPGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQR  
KLYDCCYRSSV DASFVDEYFGYLRKHFSMM"

#### ORIGIN

1 agagcattac ctaatgat tagaatgatt tccgctatga tcttgggttc taagcacgtc  
61 acgtgctgta ctgctagtga caggttttat agactctgta atgagttggc ccaagtetta  
121 acagaggta tctattctaa tgggtggttc tacctaaac ctggtggtac cacttctggt  
181 gatgctacta ctgcatacgc caattctgtt ttaacattt ttcaggcagt tagtgctaat  
241 gtcaacaggt tgcttgggtg tgatageaac acatgcaata atcttgaagt caagcaatta  
301 cagcgttaagc tttatgattg ctgctacaga tcatctagtg ttgatgctag ttttgggat  
361 gagtattttg gctatctacg taagcatttt tctatgatga t

//

LOCUS MN312415 632 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat alphacoronavirus isolate 13022322 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312415

VERSION MN312415

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 632)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 632)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..632  
/organism="Bat alphacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="13022322"  
/host="Myotis ricketti"  
/db\_xref="taxon:2419667"  
/country="China"

gene <1..>632

CDS /gene="RdRp"  
<1..>632  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88035"  
/translation="ILGSKHTTCCSNTDRYYRLCNELAQVLTEVVYSNGGFYMKPGGT  
TSGDATTAYANSVFNIFQATSANINRLLSVDSNNCANNIGVKALQRRLYDCCYRSSHVD  
DDFVTEYYNYLRKHFSMLMSDDGVVCYNSEYAALGYVADISAFKATLYYQNNVFMST  
AKCWVEPDINKGPHEFCSQHTMQIVDEEGKYLPYDPSPRILSAGVVFVDD"

ORIGIN

1 gattctgggt tctaacata ctacatgctg tagcaacaca gatcggtatt atagactgtg  
61 taatgagctt gtcagggtgc ttacagaggt tgttactcc aatgggtggt tctatatgaa  
121 acctggaggt actacttctg gtgatgccac cacagcttat gccaactcag tctttaacat  
181 ctttcaggct accagcgcta atattaacag acttcttagt gtagacagta ataactgtaa  
241 caacatcggg gtgaaagcct tacagcgacg tctttacgac tgctgttata ggctgtctca  
301 tgttgacgat gattttgta ctgagtatta caattatctt agaaaacatt tttcttggat  
361 gattttgtct gacgatgggtg tggctctgta caatagtgag tatgctgcac ttggttatgt  
421 cgctgacatc agtgcattta aggctacttt gtactaccag aacaatgttt tcatgagtac  
481 tgctaagtgt tgggttgaac ctgacattaa caaggccct catgagtttt gttctcaaca  
541 tactatgcaa atagttgatg aggaaggtaa gtactatttg ccataccag atccatccag  
601 aattttgct gctgggtggtt ttggtgatga tc

//

LOCUS MN312416 401 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 13022324-2 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312416

VERSION MN312416

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 401)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 401)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..401  
/organism="Bat coronavirus HKU6"  
/mol\_type="genomic RNA"  
/isolate="13022324-2"  
/host="Myotis ricketti"  
/db\_xref="taxon:393045"  
/country="China"

gene <1..>401  
/gene="RdRp"  
CDS <1..>401  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88036"  
/translation="RALPNMIRMISAMILGSKHVTCCTASDRFYRLCNELAQVLTEVI  
YSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQR  
KLYDCCYRSSSVDASFVDEYFGYLRKHFSMM"

ORIGIN

1 agagcattac ctaatgat tagaatgatt tccgctatga tcttggttc taagcacgctc  
61 acgtgctgta ctgctagtga caggttttat agactctgta atgagttggc ccaagtctta  
121 acagaggta tctattctaa tgggtggttc tacctaaac ctggtggtac cacttctggt  
181 gatgctacta ctgcatacgc caattctgtt ttaacattt ttcaggcagt tagtgctaat  
241 gtcaacaggt tgcttggtgt tgatagcaac acatgcaata atcttgaagt caagcaatta  
301 cagcgaagc tttatgattg ctgctacaga tcatctagtg ttgatgctag ttttgggat  
361 gagtatttg gctatctacg taagcattt tctatgatga t

//

LOCUS MN312417 365 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat alphacoronavirus isolate 13022328 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312417

VERSION MN312417

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 365)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 365)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..365  
/organism="Bat alphacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="13022328"  
/host="Rhinolophus ferrumequinum"  
/db\_xref="taxon:2419667"  
/country="China"

gene <1..>365  
/gene="RdRp"

CDS <1..>365  
/gene="RdRp"

/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88037"  
/translation="ILGSKHTTCCNTEERYRLCNELAQVLTEVVYSNGGFYLPKGGT  
TSGDATTAYANSVFNIFQAVSANINRLLSIDSNVCNNVGVKALQRELYDNCYRSSTVD  
DSFVDKYYGYLRKHFSMMI"

ORIGIN

1 tgatttagg ttcaaagcac acaacttget gtaaacactga agagcggtat tategcttat  
61 gtaatgagct tgcgcaagtg ttgacagaag ttgtttatc taatggtggt tttatttga  
121 aaccaggtgg tactactgta ggtgacgcta ctacagctta cgtaactca gtgttaaca  
181 tctccaage agtcagtgcc aatattaacc gcttacttag tatcgatagt aatgtgtgta  
241 ataatgttgg cgtaaagct ctacagagag agttgtatga taactgttac aggtcatcga  
301 ctgtggatga ttcatgtga gataagtatt acggttatct cegtaagcat ttctcaatga  
361 tgatc

//

LOCUS MN312418 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU6 isolate 1302238 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312418

VERSION MN312418

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat coronavirus HKU6"  
/mol\_type="genomic RNA"  
/isolate="1302238"  
/host="Myotis ricketti"  
/db\_xref="taxon:393045"  
/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88038"

/translation="RALPNMIRMISAMILGSKHVTCCTASDRFYRLCNELAQVLTEVI

YSNGGFYLKPGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQR  
KLYDCCYRSSSVDFVDEYFGYLRKHFSMMI"

ORIGIN

1 agagcattac ctaatgatg tagaatgatt tccgctatga tcttggttc taagcagtc  
61 acgtgctgta ctgctagtga caggttttat agactctgta atgagttggc ccaagtctta  
121 acagaggta tctattctaa tgggtggttc tacctaaac ctggtggtac cacttctggt  
181 gatgctacta ctgcatacgc caattctgtt ttaacattt ttcaggcagt tagtgctaat  
241 gtaacaggt tcttggtgt ttagatgaac acatgcaata atcttgaagt caagcaatta  
301 cagcgaagc tttatgattg ctgctacaga tcatctagtg ttgatgctag ttttgggat  
361 gagtatttg gctatctacg taagcatttt tctatgatga tt

//

LOCUS MN312419 405 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 512 isolate 2014Bat02 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312419

VERSION MN312419

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 405)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 405)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..405

/organism="Bat coronavirus 512"

/mol\_type="genomic RNA"

/isolate="2014Bat02"

/host="Scotophilus kuhlii"

/db\_xref="taxon:2664421"

/country="China"

gene <1..>405

/gene="RdRp"

CDS <1..>405

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88039"

/translation="DRALPNMIRMISAMILGSKHVNCCSSSDRYRLCNELAQVLTEM

VYSNGGFYVKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNNIEVKQLQ

RKLYDCCYRSSSVDFVDEYFGYLRKHFSMMI"

ORIGIN

1 gtgatagagc ttgccaac atgattagaa tgattctgc aatgatactt ggttctaagc  
61 acgttaactg ctgtagttct agcgaatagg actacagatt gtgtaacgaa ctgacacaag

121 ttttaacaga aatggttat tcaaacggtg gcttttatgt caaacctggt ggtactacat  
181 ctggtgatgc tacaacagct tatgccaatt cagtttttaa catatttcag gcaactagtg  
241 caaatgttaa ccgyttgttg agtgttgata gtaatacatg taacaacata gaagttaage  
301 aattgcagcg taagtgtat gattgttgtt atcgatcatc aagtgtggat caaagttttg  
361 ttgaagagta ctttggttac ctctgtaaac acttttctat gatga

//

LOCUS MN312420 412 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 512 isolate 2014Bat04 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312420

VERSION MN312420

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 412)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 412)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..412

/organism="Bat coronavirus 512"

/mol\_type="genomic RNA"

/isolate="2014Bat04"

/host="Scotophilus kuhlii"

/db\_xref="taxon:2664421"

/country="China"

gene <1..>412

/gene="RdRp"

CDS <1..>412

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88040"

/translation="KCDRALPNMIRMISAMILGSKHVNCCSSSDRYRLCNELAQVLT  
EMVYSNGGFYVKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNNIEVKQ  
LQRKLYDCCYRSSSVDQSFVEEYFGYLRKHFSMMI"

ORIGIN

1 aaatgata gagetttgcc caacatgatt agaatgatt ctgcaatgat acttggttct  
61 aagcagtta actgctgtag tctagcgat aggtactaca gattgtgtaa cgaactagca  
121 caagtttaa cagaaatgt ttattcaaac ggtggcttt atgtcaaacc tgggtgtact  
181 acgtctggtg atgctacaac agcttacgcc aattcagttt ttaacatatt tcaggcaact  
241 agtgcaaatg ttaaccgctt gttgagtgt gatagtaata catgtaaaa catagaagtt  
301 aagcaattgc agcgttaagt gtatgattgt tttatcgat catcaagtgt ggatcaaagt  
361 tttgtgaag agtactttgg ttaccttctg aagcactttt ctatgatgat tc

//  
LOCUS MN312421 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 6454-1 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.  
ACCESSION MN312421  
VERSION MN312421  
KEYWORDS .  
SOURCE Bat coronavirus 1  
ORGANISM Bat coronavirus 1  
Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.  
REFERENCE 1 (bases 1 to 402)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 402)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..402  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="6454-1"  
/host="Miniopterus fuliginosus"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>402  
/gene="RdRp"  
CDS <1..>402  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88041"  
/translation="RALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEVV  
YSNGGFYLKPGGTTSGDATTAYANSVFNIFQAVSVNINRILGVNSNTCNNLTVKELQR  
SLYDNCYRTSTVDPAFVDTFYGYLRKHFSMMI"

ORIGIN

1 agagctttgc ctaatatgat tcgatgata tccgcatga ttttgggttc taagcatgaa  
61 aattgttga ctaactctga ccgtattat agactatga atgagtggc tcaagtgcta  
121 actgaagtgg tctattctaa cggcggtttt tatttaaac caggtggtac gacatcaggt  
181 gatgcaacta cagcttatgc caattctgt ttaacatct tcaagcagt tagtgtaac  
241 attaatcgca ttttggcgt taatagcaat acttgtaata acttgacagt taaagagttg  
301 caacgctcat tgatgacaa ttgtatcgc actagtactg tagaccctgc cttttagac  
361 acgtttatg gtacttacg caaacattc tctatgatga tt

//  
LOCUS MN312422 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Miniopterus bat coronavirus HKU8 isolate 6454-2 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.



ACCESSION MN312422

VERSION MN312422

KEYWORDS .

SOURCE *Miniopterus* bat coronavirus HKU8

ORGANISM *Miniopterus* bat coronavirus HKU8

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; Minunacovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Miniopterus bat coronavirus HKU8"

/mol\_type="genomic RNA"

/isolate="6454-2"

/host="Miniopterus fuliginosus"

/db\_xref="taxon:694001"

/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88042"

/translation="RALPNMIRMISAMILGSKHVNCCTNSDRYYRLCNELAQVLTEVV

YSNGGFYMKPGGTTSGDATTAYANSVFNIFQAVSANINRILGINSNTCNNLTVKSLQR

MLYDNCYRSSAVDPGFVDTFYGYLRKHFSMMI"

ORIGIN

1 agagcattgc ctaacatgat tcgtatgatt tctgctatga tttggggtc taagcatggt

61 aattgttgta ccaattcaga tcgtattat agactttgta atgaacttgc acaagttctt

121 actgaggtgg tctattctaa cgggggttcc tatatgaagc ctggtggtac tacttctggt

181 gatgccacta ctgctatgc taattctgtt tcaacatat tccaggctgt tagtgctaat

241 attaatagga tttgggtat taatagtaat acctgtaata atcttactgt taagtcactt

301 cagcgcacgc tctatgacaa ttgttataga agttctgccg ttgatctgg tttgttgat

361 acgttttatg gctacttgcg taagcatttc tctatgatga tt

//

LOCUS MN312423 408 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 512 isolate BT140816 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312423

VERSION MN312423

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..408

/organism="Bat coronavirus 512"

/mol\_type="genomic RNA"

/isolate="BT140816"

/host="Scotophilus kuhlii"

/db\_xref="taxon:2664421"

/country="China"

gene <1..>408

/gene="RdRp"

CDS <1..>408

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88043"

/translation="CDRALPNMIRMISAMILGSKHVNCCSSSDRYRRLCNELAQVLTE

MVYSNGGFYVKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNIEVKQL

QRKLYDCCYRSSSVDQSFVEEYFGYLRKHFSMMI"

ORIGIN

1 tgtgatag cttgccaa catgattaga atgattctg caatgatact tgggtcctaa  
61 catgttaact gctgtagtc tagcgatagg tactacagat tgtgtaacga actagcacia  
121 gtttaacag aaatggttta ttcgaacggt ggcttttacg tcaaacctgg tggactaca  
181 tctggtgatg ctacaacagc ttatgccaat tcagtttta acatattca ggcaactagt  
241 gcaaatgta accgctgtt gagtgttgat agtaatacat gtaacaacat agaagttaag  
301 caattgcagc gtaagttgta tgattgtgt tatcgatcat caagtgtgga tcaagtttt  
361 gttgaagagt actttggtta ccttcgcaa cacttttcta tgatgatt

//

LOCUS MN312424 348 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 512 isolate BT140828 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312424

VERSION MN312424

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 348)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 348)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..348

/organism="Bat coronavirus 512"

/mol\_type="genomic RNA"

/isolate="BT140828"

/host="Scotophilus kuhlii"

/db\_xref="taxon:2664421"

/country="China"

gene <1..>348

/gene="RdRp"

CDS <1..>348

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88044"

/translation="RALPNMIRMISAMILGSKHVNCCSSSDRYRLCNELAQVLTEMV

YSNGGFYVKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNNIEVKQLQR

KLYDCCYRSSSVSD"

ORIGIN

1 atagagcttt gcccaacatg attagaatga ttctgcaat gatacttgg tctaagcatg  
61 ttaactgctg tagttctagc gatagtgact acagattgtg taacgaacta gcacaagttt  
121 taacagaaat ggtttattcg aacggtggct tttatgcaa acctgggtgg actacatctg  
181 gtgatgctac aacagcttat gccaatcag ttttaacat atttcaggca actagtgcaa  
241 atgtaaccg cttgttgagt gttgatagta atacatgtaa caacatagaa gttaagcaat  
301 tgcagcgtaa gttgtatgat tgtgttatc gatcatcaag tgtggatc

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LOCUS MN312425 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 512 isolate BT140829 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312425

VERSION MN312425

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;

Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402  
/organism="Bat coronavirus 512"  
/mol\_type="genomic RNA"  
/isolate="BT140829"  
/host="Scotophilus kuhlii"  
/db\_xref="taxon:2664421"  
/country="China"  
gene <1..>402  
/gene="RdRp"  
CDS <1..>402  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88045"  
/translation="RALPNMIRMISAMILGSKHVNCCSSSDRYRLCNELAQVLTEMV  
YSNGGFYVKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNNIEVKQLQR  
KLYDCCYRSSSVDQSFVEEYFGYLRKHFSMMI"

ORIGIN

1 agagctttgc ccaacatgat tagaatgatt tetgcaatga tacttggttc taagcacgtt  
61 aactgctgta gtctagcga taggtactac agattgtgta acgaactagc acaagtttta  
121 acagaaatgg ttattcaaaa cgggtggcttt tatgtcaaac ctggtggtac tacatctggt  
181 gatgtacaaa cagcttatgc caattcagtt ttaacatat ttcaggcaac tagtgcaaat  
241 gtaaccgtt tgttgagtgt tgatagtaat acatgtaaca acatagaagt taagcaattg  
301 cagcgttaagt tgtatgattg ttgtatcga tcatcaagtg tggatcaaag tttgttgaa  
361 gagtactttg gttactctcg taagcacttt tctatgatga tt

//

LOCUS MN312426 405 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 512 isolate BT140832 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312426

VERSION MN312426

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 405)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 405)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..405

/organism="Bat coronavirus 512"  
/mol\_type="genomic RNA"  
/isolate="BT140832"  
/host="Scotophilus kuhlii"  
/db\_xref="taxon:2664421"  
/country="China"  
gene <1..>405  
/gene="RdRp"  
CDS <1..>405  
/gene="RdRp"  
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/product="RNA-dependent RNA polymerase"  
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/translation="DRALPNMIRMISAMILGSKHVNCCSSSDRYRRLCNELAQVLTEM  
VYSNGGFYVKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNNIEVKQLQ  
RKLYDCCYRSSSVDQSFVEEYFGYLKHFSSMM"

#### ORIGIN

1 gtgatagac tttgccaac atgattagaa tgatttctgc aatgatactt ggttctaagc  
61 acgttaactg ctgtagttct agcgataggt actacaggtt gtgtaacgaa ctagcacaag  
121 ttttaacaga aatggtttat tcaaacgggt gcttttatgt caaacctggt ggtactacat  
181 ctggtgatgc tacaacagct tatgccaatt cagtttttaa catatttcag gcaactagtg  
241 caaatgttaa ccgcttggtg agtggtgata gtaacacatg caacaacata gaagttaagc  
301 aattgcagcg taagtgtgat gattgtggtt atcgatcadc aagtgtggat caaagtttg  
361 ttgaagagta ctttggttac cttegcaaac acttttctat gatga

//

LOCUS MN312427 415 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 512 isolate BT140835 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.  
ACCESSION MN312427  
VERSION MN312427  
KEYWORDS .  
SOURCE Bat coronavirus 512  
ORGANISM Bat coronavirus 512  
Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.  
REFERENCE 1 (bases 1 to 415)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 415)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..415  
/organism="Bat coronavirus 512"  
/mol\_type="genomic RNA"  
/isolate="BT140835"  
/host="Scotophilus kuhlii"  
/db\_xref="taxon:2664421"

gene /country="China"  
<1..>415  
/gene="RdRp"  
CDS <1..>415  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88047"  
/translation="RALPNMIRMISAMILGSKHVNCCSSDRYYRLCNELAQVLTEMV  
YSNGGFYVKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNNIEVKQLQR  
KLYDCCYRSSSVDQSFVEEYFGYLRKHFSMMILYDD"

#### ORIGIN

1 agagcttgc ccaacatgat tagaatgatt tctgcaatga tacttggttc taagcatggt  
61 aactgctgta gttctagcga taggtactac agattgtgta acgaactagc acaagtttta  
121 acagaaatgg ttattcgaa tgggtgcttt tatgtcaaac ctggtggtac tacatctggt  
181 gatgctacaa cagcttatgc caattcagtc ttaacatat ttcaggcaac tagtgcaaat  
241 gtaaccgct tgttgagtgt tgatagtaac acatgcaaca acatagaagt taagcaattg  
301 cagcgtaatg tgatgattg ttgtatcga tcatcaagtg tggatcaaag tttgttgaa  
361 gagtactttg gttatctcg taaacacttt tccatgatga tactttatga tgatt

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LOCUS MN312428 425 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 512 isolate BT140844 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312428

VERSION MN312428

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 425)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 425)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..425  
/organism="Bat coronavirus 512"  
/mol\_type="genomic RNA"  
/isolate="BT140844"  
/host="Scotophilus kuhlii"  
/db\_xref="taxon:2664421"  
/country="China"

gene <1..>425  
/gene="RdRp"

CDS <1..>425  
/gene="RdRp"

/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88048"  
/translation="RALPNMIRMISAMILGSKHVNCCSSSDRYRLCNELAQVLTEMV  
YSNGGFYVKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNNIEVKQLRR  
KLYDCCYRSSSVDQSFVEEYFGYLRKHFSMMILSDDGVV"

ORIGIN

1 agagctttgc ccaacatgat tagaatgatt tetgcaatga tacttggttc taagcatggt  
61 aactgctgta gtctagcga taggtactac agattgtgta acgaactagc acaagtttta  
121 acagaaatgg ttattcgaa tgggtggcttt tatgtcaaac ctggtggtac tacatctggt  
181 gatgctacaa cagcttatgc caattcagtc ttaacatat ttcaggcaac tagtgcaaat  
241 gtaaccgct gtgtgagtgt tgatagtaac acatgcaaca acatagaggt taagcaattg  
301 cggcgtaaat tgatgattg ttgtatcga tcatcaagtg tggatcaaag tttgttgaa  
361 gagtactttg gttatcttcg taaacacttt tccatgatga tactttctga tgacggtgtc  
421 gtagt

//

LOCUS MN312429 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 512 isolate BT140855 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312429

VERSION MN312429

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat coronavirus 512"

/mol\_type="genomic RNA"

/isolate="BT140855"

/host="Scotophilus kuhlii"

/db\_xref="taxon:2664421"

/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88049"

/translation="RALPNMIRMISAMILGSKHVNCCSSSDRYRLCNELAQVLTEMV

YSNGGFYVKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNNIEVKQLQR  
KLYDCCYRSSSVDSQSFVEEYFGYLRKHFSMMI"

ORIGIN

1 agagctttgc ccaacatgat tagaatgatt tetgcaatga tacttggttc taagcacgtt  
61 aactgctgta gtctagcga taggtactac aggttggtga acgaactagc acaagtttta  
121 acagaaatgg ttattcaaa cgggtgcttt tatgtcaaac ctggtggtac tacatctggt  
181 gatgctacaa cagcttatgc caattcagtt ttaacatat ttcaggcaac tagtgcaaat  
241 gttaacgct tgttgagtgt tgatagtaac acatgcaaca acatagaagt taagcaattg  
301 cagcgttaagt tgtatgattg ttgttatcga tcatcaagtg tggatcaaag tttgttgaa  
361 gactactttg gttactctgc caaacacttt tctatgatga tt

//

LOCUS MN312430 405 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 512 isolate BT140867 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312430

VERSION MN312430

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 405)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 405)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..405

/organism="Bat coronavirus 512"

/mol\_type="genomic RNA"

/isolate="BT140867"

/host="Scotophilus kuhlii"

/db\_xref="taxon:2664421"

/country="China"

gene <1..>405

/gene="RdRp"

CDS <1..>405

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88050"

/translation="DRALPNMIRMISAMILGSKHVNCCSSSDRYRLCNELAQVLTEM

VYSNGGFYVKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNNIEVKQLQR

RKLYDCCYRSSSVDSQSFVEEYFGYLRKHFSMMI"

ORIGIN

1 gtgatagagc ttgccaac atgattagaa tgatttctgc aatgatactt ggttctaagc  
61 atgtaactg ctgtagttct agcगतtaggt actacagatt gtgtaacgaa ctagcacaag



121 ttttaacaga aatggtttat tcgaacgggtg gcttttacgt caaacctggt ggtactacat  
181 ctggtgatgc tacaacagct tatgccaatt cagttttta catatttcag gcaactagtg  
241 caaatgttaa ccgcttggtg agtggtgata gtaatacatg taacaacata gaagttaagc  
301 aattgcagcg taagtgtat gattgttgg atcgatcatc aagtgtggat caaagttttg  
361 ttgaagagta ctttggttac cttcgcaaac acttttctat gatga

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LOCUS MN312431 408 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 512 isolate BT140878 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312431

VERSION MN312431

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..408

/organism="Bat coronavirus 512"

/mol\_type="genomic RNA"

/isolate="BT140878"

/host="Scotophilus kuhlii"

/db\_xref="taxon:2664421"

/country="China"

gene <1..>408

/gene="RdRp"

CDS <1..>408

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88051"

/translation="CDRALPNMIRMISAMILGSKHVNCCSSSDRYRLCNELAQVLTE

MVYSNGGFYVKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNNIEVKQL

QRKLYDCCYRSSSVDQSFVEEYFGYLRKHFSSMMI"

ORIGIN

1 tgtgatagag cttgcccac catgattaga atgatttctg caatgatact tgggtctaag  
61 cacgttaact gctgtagttc tagcgatagg tactacaggt tgtgtaacga actagcacia  
121 gtttaacag aatggttta tcaaacgggt ggctttatg tcaaactgg tggtactaca  
181 tctggtgatg ctacaacagc ttatgccaat tcagtttta acatattca ggcaactagt  
241 gcaaatgta accgcttgtt gagtgttgat agtaacacat gcaacaacat agaagttaag  
301 caattgcagc gtaagttgta tgattgttgt tatcgatcat caagtgtgga tcaaagtttt  
361 gttgaagagt actttggtta ccttcgcaa cacttttcta tgatgatt

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LOCUS MN312432 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 512 isolate BT140885 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.  
ACCESSION MN312432  
VERSION MN312432  
KEYWORDS .  
SOURCE Bat coronavirus 512  
ORGANISM Bat coronavirus 512  
Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.  
REFERENCE 1 (bases 1 to 402)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 402)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..402  
/organism="Bat coronavirus 512"  
/mol\_type="genomic RNA"  
/isolate="BT140885"  
/host="Scotophilus kuhlii"  
/db\_xref="taxon:2664421"  
/country="China"  
gene <1..>402  
/gene="RdRp"  
CDS <1..>402  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88052"  
/translation="RALPNMIRMISAMILGSKHVNCCSSSDRYRRLCNELAQVLTEMV  
YSNGGFYVKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNNIEVKQLQR  
KLYDCCYRSSSVDSQSFVEEYFGYLRKHFSMMI"

ORIGIN

1 agagctttgc ccaacatgat tagaatgatt tctgcaatga tacttggttc taagcatggt  
61 aactgctgta gttctagcga taggtactac agattgtgta acgaactagc acaagtttta  
121 acagaaatgg ttatctgaa cggtggcttt tacgtcaaac ctggtggtac tacatctggt  
181 gatgctacaa cagcttatgc caattcagtt ttaacatat ttcaggcaac tagtgcaaat  
241 gttaacgct tgttgagtgt tgatagtaat acatgtaaca acatagaagt taagcaattg  
301 cagcgttaagt tgtatgattg ttgtatcga tcatcaagtg tggatcaaag tttgttgaa  
361 gagtactttg gttacctcg caaacacttt tctatgatga tt

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LOCUS MN312433 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate BY140552 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.  
ACCESSION MN312433

VERSION MN312433

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat coronavirus 1"

/mol\_type="genomic RNA"

/isolate="BY140552"

/host="Myotis horsfieldii"

/db\_xref="taxon:2042696"

/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88053"

/translation="RALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEVV

YSNGGFYLKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNLTVKSLQR

SLYDNCYRTSTVDPAFVDTFYGYLRKHFSMMI"

ORIGIN

1 agagcattgc ctaatatgat tcgtatgata tctgcatga ttttgggttc taagcatgag  
61 aattgttgta ctaactctga ccgttactat agactatgca acgagttggc tcaagtgcta  
121 accgaggtag tctattctaa tggcgggttt tatttaaac caggtgttac gacatcgggt  
181 gatgcaacga cggcttatgc caactcagtg ttaatatct tcaagcagt tagtgctaac  
241 attaategca ttttgggcgt taatagcaat acttgtaata acttgacagt taaaagtttg  
301 cagegetctt tgatgacaa ttgtatcgc actagtactg tggaccctgc cttttagac  
361 acatttatg gctacttacg caaacatttc tctatgatg tt

//

LOCUS MN312434 391 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 512 isolate 8350 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312434

VERSION MN312434

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 391)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 391)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..391

/organism="Bat coronavirus 512"

/mol\_type="genomic RNA"

/isolate="8350"

/host="Scotophilus kuhlii"

/db\_xref="taxon:2664421"

/country="China"

gene <1..>391

/gene="RdRp"

CDS <1..>391

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88054"

/translation="GWDYPKCDRALPNMIRMISAMILGSKHVNCCSSSDRYRLCNEL

AQVLTEMVYSNGGFYVKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNN

IEVKQLQRKLYDCCYRSSSVDSQSFVEEY"

ORIGIN

1 tggttgggat tatectaaat gtgatagagc ttgccaac atgattagaa tgattctgc  
61 aatgatactt ggttctaagc acgttaactg ctgtagtct agcgataggt actacagatt  
121 gtgtaacgaa ctagcacaag ttttaacaga aatggtttat tcaaacggtg gcttttatgt  
181 caaacctggt ggtactacat ctggtgatgc tacaacagct tatgccaatt cagttttaa  
241 catatttcag gcaactagtg caaatgtaa ccgcttggtg agtgttgata gtaatacatg  
301 taacaacata gaagtaagc aatgcagcg taagttgat gattgttgt atcgatcatc  
361 aagtgtggat caaagtttg ttgaagagta c

//

LOCUS MN312435 388 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 8603 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312435

VERSION MN312435

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 388)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrelío,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
 TITLE Origin and cross-species transmission of bat coronaviruses in China  
 JOURNAL Unpublished  
 REFERENCE 2 (bases 1 to 388)  
 AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
 Zambrana-Torrelío,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
 TITLE Direct Submission  
 JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
 biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
 Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
 FEATURES Location/Qualifiers  
 source 1..388  
 /organism="Bat coronavirus 1"  
 /mol\_type="genomic RNA"  
 /isolate="8603"  
 /host="Miniopterus pusillus"  
 /db\_xref="taxon:2042696"  
 /country="China"  
 gene <1..>388  
 /gene="RdRp"  
 CDS <1..>388  
 /gene="RdRp"  
 /codon\_start=2  
 /product="RNA-dependent RNA polymerase"  
 /protein\_id="QGA88055"  
 /translation="GWDYPKCDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNEL  
 AQLVTEVVYSNGGFYLPKGGTTS GDATTAYANSVFNIFQAVSANINRILGVNSNTCNN  
 LTVKSLQRSLYDNCYRTSTVDPAFVDT"  
 ORIGIN  
 1 tggttgggat taccctaat gtgatagagc attgcctaat atgatccgta tgatatccgc  
 61 catgattttg ggttctaagc atgagaattg ttgtactaac tctgaccgtt attatagact  
 121 atgcaacgag ctggctcaag tgctaaccga ggtggtctat tctaatggcg gtttttactt  
 181 aaaaccaggt ggtacgacat cgggtgatgc aacgacggct tatgccaatt cagtgtttaa  
 241 tatcttcaa gcagttagt ctaacattaa tcgattttg ggcgtaata gcaatacttg  
 301 caataacttg acagttaaaa gtttcagcgc ctctttgat gacaattgtt atcgcaactag  
 361 tactgtggac cctgcctttg tagacaca  
 //  
 LOCUS MN312436 391 bp RNA linear VRL 07-NOV-2019  
 DEFINITION Bat coronavirus 1 isolate 8604 RNA-dependent RNA polymerase (RdRp)  
 gene, partial cds.  
 ACCESSION MN312436  
 VERSION MN312436  
 KEYWORDS .  
 SOURCE Bat coronavirus 1  
 ORGANISM Bat coronavirus 1  
 Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
 Orthocoronavirinae; Alphacoronavirus; unclassified  
 Alphacoronavirus.  
 REFERENCE 1 (bases 1 to 391)  
 AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
 Zambrana-Torrelío,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
 TITLE Origin and cross-species transmission of bat coronaviruses in China  
 JOURNAL Unpublished  
 REFERENCE 2 (bases 1 to 391)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..391  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="8604"  
/host="Miniopterus pusillus"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>391  
/gene="RdRp"  
CDS <1..>391  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88056"  
/translation="GLGFPKCDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNEL  
AQVLTEVVYSNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNN  
LTVKSLQRSLYDNCYRTSTVDPAFVDTF"

ORIGIN

1 gggttgggat ttctaatg tgatagagca tgcctaata tgatccgat gatatccgcc  
61 atgatttgg gttctaaaca tgagaattgt gtactaact ctgaccgta ttagacta  
121 tgcaacgagt tggctcaagt gtaaccgag gtggtctatt ctaatggcgg ttttaccta  
181 aaaccagtg gtacgacatc gggatgatca acgacagctt atgccaattc agtgtttaat  
241 atcttcaag cagttagtgc taacattaat cgcatttgg gcgttaatag caatactgc  
301 aataactga cagttaaaag ttgcagcgc tctttgatg acaattgta tcgcactagt  
361 actgtggacc ctgccttgt agacacattt a

//

LOCUS MN312437 372 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 8606 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312437

VERSION MN312437

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 372)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 372)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
source            1..372  
                  /organism="Bat coronavirus 1"  
                  /mol\_type="genomic RNA"  
                  /isolate="8606"  
                  /host="Miniopterus pusillus"  
                  /db\_xref="taxon:2042696"  
                  /country="China"  
gene              <1..>372  
                  /gene="RdRp"  
CDS                <1..>372  
                  /gene="RdRp"  
                  /codon\_start=1  
                  /product="RNA-dependent RNA polymerase"  
                  /protein\_id="QGA88057"  
                  /translation="GWDYPKCDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNEL  
                  AQLVTEVVYSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNN  
                  LTVKSLQRSLYDNCYRTSTVDP"

#### ORIGIN

1 ggttgggatt atcctaatg tgatagagca tgcctaata tgatccgtat gatatccgc  
61 atgatttgg gttctaagca tgagaattgt tgtactaact ctgaccgta ttatagacta  
121 tgcaacgagt tggetcaagt gctaactgag gtggtctatt ctaatggcgg ttttatcta  
181 aaaccaggtg gtacgacatc gggatgatca acgacggcct atgccaattc agtgtttaat  
241 atcttcaag cagtcagtgc taacattaat cgcatttgg gtgtaatag caactactgc  
301 aataactga cagttaaag ttgcagcgc tcttggatg acaattgta tcgcactagt  
361 actgtggacc cc

//

LOCUS    MN312438            387 bp    RNA    linear    VRL 07-NOV-2019  
DEFINITION    Bat coronavirus 1 isolate 8608 RNA-dependent RNA polymerase (RdRp)  
                  gene, partial cds.  
ACCESSION    MN312438  
VERSION      MN312438  
KEYWORDS     .

SOURCE      Bat coronavirus 1  
ORGANISM     Bat coronavirus 1  
              Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
              Orthocoronavirinae; Alphacoronavirus; unclassified  
              Alphacoronavirus.

REFERENCE    1 (bases 1 to 387)  
AUTHORS     Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
              Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE        Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL     Unpublished  
REFERENCE    2 (bases 1 to 387)  
AUTHORS     Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
              Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE        Direct Submission  
JOURNAL     Submitted (13-AUG-2019) Key laboratory of special pathogens and  
              biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
              Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
source            1..387

/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="8608"  
/host="Miniopterus pusillus"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>387  
/gene="RdRp"  
CDS <1..>387  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88058"  
/translation="GWDYPKCDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNEL  
AQVLTEVVYSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNN  
LTVKSLQRSLYDNCYRTSTVDPAFVDT"

#### ORIGIN

1 ggttgggatt atcctaatg tgatagagca ttgctaata tgattcgtat gatatccgcc  
61 atgatttgg gttctaagca tgagaattgt tgtactaact ctgaccgta ctatagacta  
121 tgcaatgagt tggctcaagt gctaactgag gtgggtctatt ctaatggcgg tttttacta  
181 aaaccaggtg gtacgacatc gggatgatca acgacggcct atgccaattc agtgtttaat  
241 atctttcaag cagtcagtgc taacattaat cgcatttgg gcgtaatat caatacttgc  
301 aataactga cagttaaaag tttgcagcgc tctttgatg acaattgta tgcactagt  
361 actgtggacc ctgcctttgt agacaca

//

LOCUS MN312439 368 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 8612 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312439

VERSION MN312439

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 368)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 368)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..368  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="8612"  
/host="Miniopterus pusillus"



/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>368  
/gene="RdRp"  
CDS <1..>368  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88059"  
/translation="GWDYPKCDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNEL  
AQVLTEVVYSNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNN  
LTVKSLQRSLYDNCYRTSTV"

#### ORIGIN

1 ggttgggatt atcctaatg tgatagagca tgcctaata tgattcgtat gatatccgcc  
61 atgatttgg gttctaagca tgagaattgt tgtactaact ctgaccgta ctatagacta  
121 tgcaacgagt tggetcaagt gctaaccgag gtagtctatt ctaatggcgg tttttattha  
181 aaaccaggtg gtacgacatc gggatgatca acgacggcct atgccaattc agtgtttaat  
241 atcttcaag cagttagtgc taacattaat cgcatttgg gcgtaataag caatactgt  
301 aataactga cagtaaaag ttgcagcgc tctttgatg acaattgta tcgcactagt  
361 actgtgga

//

LOCUS MN312440 393 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 9147 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312440

VERSION MN312440

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 393)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 393)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..393  
/organism="Bat coronavirus HKU6"  
/mol\_type="genomic RNA"  
/isolate="9147"  
/host="Myotis ricketti"  
/db\_xref="taxon:393045"  
/country="China"  
gene <1..>393  
/gene="RdRp"

CDS <1..>393  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88060"  
/translation="RALPNMIRMISAMILGSKHVTCCTASDRFYRLSNELAQVLTEVI  
YSNGGFYLKPGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQR  
KLYDCCYRSSNVDASFVDEYFGYLRKHFS"

ORIGIN

1 tagggcatta cctaataatga ttagaatgat ttccgctatg attttggggtt ctaagcatgt  
61 cacttggtgt actgctagt acaggtttta cagactctcc aatgagctgg cccaagtctt  
121 aacggaggtt atctattcta atgggtggtt ttacctcaaa cctgggggta ccactctgg  
181 tgatgaacc actgcatatg ccaattctgt gtttaacatt ttcaggctg ttagtgcaa  
241 tgcaatagg ttgcttggtg ttgatagcaa cacatgtaac aatctagaag tcaagcaatt  
301 acagcgtgtaag ctttatgatt gctgctacag gtcactaat gttgatgcca gttttgtaga  
361 tgagtatttt gggtatctac gtaagcattt ttc

//

LOCUS MN312441 358 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 9179 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312441

VERSION MN312441

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 358)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 358)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..358  
/organism="Bat coronavirus HKU6"  
/mol\_type="genomic RNA"  
/isolate="9179"  
/host="unknown"  
/db\_xref="taxon:393045"  
/country="China"

gene <1..>358  
/gene="RdRp"

CDS <1..>358  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88061"  
/translation="LPNMIRMISAMILGSKHVTCCTASDRFYRLCNELAQVLTEVIYS  
NGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQRKL  
YDCCYRSSSVDasfvde"

ORIGIN

1 attaccta atgattagaa tgattccgc tatgatcttg ggttctaagc acgtcacatg  
61 ctgtactgct agtgacaggt tttatagact ctgtaatgag ttggccaag tcttaacaga  
121 gggtatctat tctaatggtg gttctacct taaacctggt ggtaccactt ctggtgacgc  
181 tactactgca tacccaatt ctgtctttaa cattttcag gcagtagtg ctaatgtaa  
241 caggttgctt ggtgttgata gcaacacatg caacaatctt gaagtcaagc aattacagcg  
301 taagctttat gattgctgct acagatcadc tagtgtgat gctagtttg tggatgag

//

LOCUS MN312442 359 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 150905 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312442

VERSION MN312442

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 359)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 359)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..359

/organism="Bat coronavirus HKU6"  
/mol\_type="genomic RNA"  
/isolate="150905"  
/host="Myotis ricketti"  
/db\_xref="taxon:393045"  
/country="China"

gene <1..>359  
/gene="RdRp"

CDS <1..>359  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88062"  
/translation="LPNMIRMISAMILGSKHVTCCTASDRFYRLCNELAQVLTEVIYS  
NGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQRKL  
YDCCYRSSSVDasfvde"

ORIGIN

1 attacctaat atgattagaa tgattccgc tatgatcttg ggttctaagc acgtcacatg  
61 ctgtactgct agtgacaggt tttatagact ctgtaatgag ttggccaag tcttaacaga  
121 gggtatctat tctaattggt gtttctacct taaacctggt ggtaccactt ctggtgatgc  
181 tactactgca tacgccaatt ctgtctttaa catctttcag gcagttagt ctaatgcaa  
241 caggttgctt ggtgttgata gcaacacatg caacaatctt gaagtcaagc aattacagcg  
301 taagctttat gattgctgct acagatcadc tagtgttgat gctagtttg tggatgagt

//

LOCUS MN312443 363 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU6 isolate 150906 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312443

VERSION MN312443

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 363)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 363)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..363

/organism="Bat coronavirus HKU6"

/mol\_type="genomic RNA"

/isolate="150906"

/host="Myotis ricketti"

/db\_xref="taxon:393045"

/country="China"

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/gene="RdRp"

CDS <1..>363

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/product="RNA-dependent RNA polymerase"

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/translation="LPNMIRMISAMILGSKHVTCCTASDRFYRLCNELAQVLTEVIYS

NGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQRKL

YDCCYRSSSVDASFVDEY"

ORIGIN

1 attacctaat atgattagaa tgattccgc tatgatcttg ggttctaagc acgtcacatg  
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241 caggttgctt ggtgttgata gcaacacatg caacaatctt gaagtcaagc aattacagcg

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361 ttg

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LOCUS MN312444 359 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 150907 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312444

VERSION MN312444

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 359)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 359)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..359

/organism="Bat coronavirus HKU6"  
/mol\_type="genomic RNA"  
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/host="Myotis ricketti"  
/db\_xref="taxon:393045"  
/country="China"

gene <1..>359

/gene="RdRp"

CDS <1..>359

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

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/translation="LPNMIRMISAMILGSKHVTCCTASDRFYRLSNELAQVLTEVIYS

NGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQRKL

YDCCYRSSNVDASFVDE"

ORIGIN

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241 taggttgctc ggtgttgata gcaacacatg caataaccta gaagtcaagc aattacagcg  
301 taagctctat gattgctgct acaggtcatc caatgtgat gctagtttg tagatgagt

//

LOCUS MN312445 359 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 150912 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.  
ACCESSION MN312445  
VERSION MN312445  
KEYWORDS .  
SOURCE Bat coronavirus HKU6  
ORGANISM Bat coronavirus HKU6  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.  
REFERENCE 1 (bases 1 to 359)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 359)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
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/organism="Bat coronavirus HKU6"  
/mol\_type="genomic RNA"  
/isolate="150912"  
/host="Miniopterus schreibersii"  
/db\_xref="taxon:393045"  
/country="China"  
gene <1..>359  
/gene="RdRp"  
CDS <1..>359  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88065"  
/translation="LPNMIRMISAMILGSKHVTCCTASDRFYRLCNELAQVLTEVIYS  
NGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQRKL  
YDCCYRSSSVDASFVDE"

#### ORIGIN

1 attacctaat atgattagaa tgattccgc tatgatcttg ggttctaagc atgtcacatg  
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241 caggttgctt ggtgttgata gcaacacatg caacaatctt gaagtaagc aattgcagcg  
301 taagctttat gattgctgct acagatcatc tagtgttgat gctagtttg tggatgagt

//

LOCUS MN312446 360 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 150935 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.  
ACCESSION MN312446  
VERSION MN312446  
KEYWORDS .  
SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..360

/organism="Bat coronavirus HKU6"

/mol\_type="genomic RNA"

/isolate="150935"

/host="Miniopterus sp."

/db\_xref="taxon:393045"

/country="China"

gene <1..>360

/gene="RdRp"

CDS <1..>360

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88066"

/translation="LPNMIRMISAMILGSKHVTCCTASDRFYRLCNELAQVLTEVIYS

NGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQRKL

YDCCYRSSVSDASFVDE"

ORIGIN

1 attacctaat atgattagaa tgattccgc tatgatcttg ggttctaagc acgtcacatg  
61 ctgtactgct agtgacaggt tttatagact ctgtaatgag ttggccaag tcttaacaga  
121 gggtatctat tctaagtgtg gtttctacct taaacctggt ggtaccactt ctgggtgatgc  
181 tactactgea tacgccaatt ctgtctttaa catctttcag gcagttagtg ctaatgtcaa  
241 caggttgctt ggtgttgata gcaacacatg caacaatctt gaagtaagc aattacagcg  
301 taagctttat gattgctgct acagatcatc tagtgttgat gctagtttg tggatgagta

//

LOCUS MN312447 358 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 150943 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312447

VERSION MN312447

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 358)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 358)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..358  
/organism="Bat coronavirus 1"  
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/host="Myotis ricketti"  
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gene <1..>358  
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CDS <1..>358  
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ORIGIN

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61 ttgtactaac tctgaccgtt attatagatt atgtaacgag ttggcacaag tgctaactga  
121 agtgggtctat tctaacggcg gtttttattt aaaaccaggt ggtacgacat caggtgatgc  
181 aacgacagct tatgccaatt ctgtttttaa tatcttcaa gcagtcagtg ctaacattaa  
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301 ctcatgtat gacaattgt atcgactag tactgttgac cctgccttg tagacacg

//

LOCUS MN312448 360 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 150945 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312448

VERSION MN312448

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 360)



AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..360  
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/mol\_type="genomic RNA"  
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/host="Myotis ricketti"  
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CDS <1..>360  
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YDCCYRSSSVDASFVDE"

#### ORIGIN

1 attaccta atgattagaa tgattccgc tatgatcttg ggttctaagc acgtcacctg  
61 ctgtactgct agtgacaggt tttatagact ctgtaatgag ttggccaag tcttaacaga  
121 gggtatctat tctaaggtg gtttctacct taaacctggt ggtaccactt ctggtgatgc  
181 tactactgca tacgccaatt ctgtcttaa cattttcag gcagtagtg ctaatgtcaa  
241 caggttgctt ggtgttgata gcaacacatg caacaatctt gaagtaagc aattacagcg  
301 taagcttat gattgctgct acagatcadc tagtgtgat gctagtttg tggatgagta

//

LOCUS MN312449 408 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 151182 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312449

VERSION MN312449

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
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#### ORIGIN

1 tgtgatagag ctatgcctag tatgatacgt atgcttgctg ctatggttct tggatcgaag  
61 catgttcatc gttgtacaga tagtgacagg tttatagac ttctaata ga acttgcgcaa  
121 gttctaatg aggttgtgca ttctaata gga gggttttacg taaaacctgg tggcaccacg  
181 tcaggtgatg ctacaactgc ttatgcaaat tctgtcttta acatctttca ggcagtttagc  
241 tctaataatta ataggctact ttctgttgat agtaatg ttt gtaacaattt gtatgtcaaa  
301 aagcttcagc gctctatcta tgacaattgt tatagatcta gtgctgttga tgacaatgtt  
361 gttacggatt ttataacta tcttaagaag catttttcta tgatgatt

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LOCUS    MN312450            411 bp    RNA    linear    VRL 07-NOV-2019  
DEFINITION    Rhinolophus bat coronavirus HKU2 isolate 151194 RNA-dependent RNA  
                  polymerase (RdRp) gene, partial cds.

ACCESSION    MN312450

VERSION     MN312450

KEYWORDS    .

SOURCE     Rhinolophus bat coronavirus HKU2

ORGANISM    Rhinolophus bat coronavirus HKU2

              Viruses; Riboviria; Nidovirales; Coronaviridae;  
              Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE    1 (bases 1 to 411)

AUTHORS     Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
              Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE        Origin and cross-species transmission of bat coronaviruses in China

JOURNAL     Unpublished

REFERENCE    2 (bases 1 to 411)

AUTHORS     Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
              Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE        Direct Submission

JOURNAL     Submitted (13-AUG-2019) Key laboratory of special pathogens and  
              biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
              Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

source            1..411  
                  /organism="Rhinolophus bat coronavirus HKU2"  
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                  /isolate="151194"

/host="Rhinolophus sinicus"  
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#### ORIGIN

1 aagtgtgaca gagctatgcc tagtatgata cgtatgcttg ctgctatggt tcttggatcg  
61 aagcatgta catgtgttac agatagtac aggtttata gactttctaa tgaacttgcg  
121 caagttctta atgaggttgt gcattctaata ggagggtttt acgtaaaacc tgggtggcacc  
181 acgtcaggtg atgctacaac tgcttatgca aattctgtct ttaacatctt tcaggcagtt  
241 agctctaata ttaataggct accttctgtt gatagtaatg tttgtaacaa tttgtatgct  
301 aaaaagcttc agcgcctctat ctatgacaat tgttatagat ctagtgtgtg tgatgacaat  
361 gttgttacgg attttataa ctatctaag aagcattttt ctatgatgat t

//

LOCUS MN312451 401 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 151198 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312451

VERSION MN312451

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 401)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 401)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..401  
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/country="China"

gene <1..>401

CDS /gene="RdRp"  
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/translation="RALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEVV  
YSNGGFYLKPGGTTSGDATTAYANSVFSIFQAVSANINRILGVNSNTCNNLTVKDLQR  
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ORIGIN

1 agagcattgc ctaatgat tcgtatgata tccgcatga ttttgggttc caagcatgag  
61 aattgttga ccaactctga tcgtattat agactatgta atgagttagc tcaagtgtta  
121 actgaggtag tctattctaa tgggtggttt tatttaaac caggtggtac gacatcgggt  
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241 attaatgca tattgggtgt taatagcaat acttgaata acttgacagt taaagattg  
301 cagcgtctgt tgtatgataa ttgtatcgc actagtactg tagaccctgc cttttagac  
361 acgttttatg gctacttacg caaacatttc tctatgatga t

//

LOCUS MN312452 410 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 151593 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312452

VERSION MN312452

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 410)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 410)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..410  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="151593"  
/host="Miniopterus schreibersii"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>410  
/gene="RdRp"

CDS <1..>410  
/gene="RdRp"  
/codon\_start=3

/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88072"  
/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKEL  
QRSLYDNCYRTSTVDPAFVDTFYGYLRKHFSMMI"

ORIGIN

1 aatgtgatag agctttgect aatatgattc gtatgatc cgccatgatt ttgggttcta  
61 agcatgaaaa ttgtgtact aattctgacc gttattatag attatgtaac gagttggcac  
121 aagtgctaac tgaagtggtc tattctaacg gcggtttta tttaaaccac ggtggtacga  
181 catcaggtga tgcaacgacg gcttatgcca attctgttt taacatcttt caagcagta  
241 gtgctaacat taatgcatt ttgggcgta atagcaatac ttgcaatac ttgacagta  
301 aagagttgca acgctcattg tatgacaatt gttatcgcac tagtactgta gacctgcct  
361 ttgtagacac gtttatggt tacttacgca aacattctc tatgatgatt

//

LOCUS MN312453 408 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 151690 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312453

VERSION MN312453

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..408

/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="151690"  
/host="Miniopterus schreibersii"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>408

/gene="RdRp"

CDS <1..>408

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88073"

/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKEL

QRSLYDNCYRTSTVDPAFVDTFYGYLRKHFSMMI"

ORIGIN

1 tgtgatagag ctttgctaa tatgattcgt atgatatccg ccatgatttt gggttctaag  
61 catgaaaatt gttgactaa ctctgaccgt tattatagac tatgtaatga gttggcacia  
121 gtgctaactg aagtggctta ttctaacggc gggttttatt taaaaccagg tggtagaca  
181 tcaggtgatg caacgacagc ttatgccaat tctgtttta acatctttca agcagttagt  
241 gctaacatta atcgcatttt gggcgtaat agcaatactt gcaataactt gacagttaa  
301 gagttgcaac gctcattgta tgacaattgt tategcacta gtactgtaga cccagccttt  
361 gtagacacgt tttatggta ttacgcaaa catttcteta tgatgatt

//

LOCUS MN312454 398 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 7837 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312454

VERSION MN312454

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 398)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 398)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..398

/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="7837"  
/host="Rhinolophus affinis"  
/db\_xref="taxon:693998"  
/country="China"

gene <1..>398

/gene="RdRp"

CDS <1..>398

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88074"

/translation="AMPSLIRMLAAMVLGSKHVTCCTSDRFYRLSNELAQVLNEVVH

SNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQRS

IYDNCYRSSAVDDTVVTDYNYLKKHFSMM"

ORIGIN

1 agctatgctt agtttgatac gtatgcttgc tgctatgggt cttggatcta agcaggttac  
61 atgttgatac gacagtgata ggttttacag actttctaat gaacttgctc aagttcttaa  
121 tgaagttgtg cattctaag gaggtttta tgataaaccc ggtggcacca catcaggtga

181 tgctacgact gcttatgcaa attctgttt taacatcttt caggcagtta gctctaatat  
241 taacaggctt ctttctgttg atagtaatgt gtgtaacaat ttgtatgtca aaaagctcca  
301 gcgctctatc tatgacaatt gttataggtc tagtgcgtgt gatgacactg ttgttacaga  
361 cttttataac tatcttaaga agcacttttc tatgatga

//

LOCUS MN312455 355 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat alphacoronavirus isolate 8006 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312455

VERSION MN312455

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; unclassified

Alphacoronavirus.

REFERENCE 1 (bases 1 to 355)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 355)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..355

/organism="Bat alphacoronavirus"

/mol\_type="genomic RNA"

/isolate="8006"

/host="Hipposideros pomona"

/db\_xref="taxon:2419667"

/country="China"

gene <1..>355

/gene="RdRp"

CDS <1..>355

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88075"

/translation="LPNMIRMISAMILGSKHVTCCDSSDKYYRLCNELAQVLTEVVYS

NGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRLLSIDSNVCNNIGVKSLQRKL

YDCCYRSSVDDSFVD"

ORIGIN

1 actccctaat atgattegca tgatttctgc catgattttg ggttgaagc atgttacttg

61 ctgtgattct tctgataat attaccgtct ctgtaatgag ctcgctcaag ttttgacaga

121 agttgtatat tctaattgtg ggttttatct caagcctggg ggtaccactt ctggcgatgc

181 tacaacggct tatgctaact ctgtgttaa tattttcaa gctgttagcg ccaatattaa

241 caggttgctt agcattgata gcaatgtgtg taataatatt ggtgttaaga gtttgacagc

301 taagctatat gattgtgtt acagatcttc tcagtagat gattcttttg tagac

//

LOCUS MN312456 357 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 8010 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312456

VERSION MN312456

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 357)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 357)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..357

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="8010"

/host="Rhinolophus affinis"

/db\_xref="taxon:693998"

/country="China"

gene <1..>357

/gene="RdRp"

CDS <1..>357

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88076"

/translation="MPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEVVHS  
NGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQRSI  
YDNCYRSSAVDDTVVT"

ORIGIN

1 tatgcctagt atgatacgtg tgcttgctgc catggttctt ggatctaagc acgttacatg  
61 ttgtacagac agtgataggt ttacagact ttctaacgaa cttgcgcaag ttcttaatga  
121 gggtgtgcat tctaatggag gttttatgt aaaacctggt ggcactacat caggtgatgc  
181 tacaactgct tatgcaaatt ctgttttaa cattttcag gcagttagct ctaacattaa  
241 caggcttctt tctgttgata gtaatgtgtg taacaactg tatgtcaaaa agcttcagcg  
301 ctctatctat gacaattgtt ataggtctag tgctgttgat gacactgttg ttacaga

//

LOCUS MN312457 364 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 8011 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312457

VERSION MN312457

KEYWORDS .



SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 364)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 364)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..364

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="8011"

/host="Rhinolophus sp."

/db\_xref="taxon:693998"

/country="China"

gene <1..>364

/gene="RdRp"

CDS <1..>364

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88077"

/translation="MPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEVIHS

NGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQRSI

YDNCYRSSAVDDNVVQNYN"

ORIGIN

1 tatgcctagt atgatccgca tgcttgctgc tatggttctt ggatcaaagc atgttacatg  
61 ttgtacagac agtgataggt ttacagact ttctaataaa cttgcacaag ttcttaataa  
121 ggttatacat tccaatggag gttttatgt aaaacccggg ggcactacat caggtgatgc  
181 tacaactgct tatgcaact ctgtctttaa tattttccag gcagttagct ctaacattaa  
241 tagacttctt tctgttgata gtaatgtgtg taacaattta tatgtaaaaa agcttcagcg  
301 ctctatctat gataattgtt atagatctag tgctgttgat gacaatgttg tacagaatta  
361 taac

//

LOCUS MN312458 356 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 8012 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312458

VERSION MN312458

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 356)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 356)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers  
source 1..356  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="8012"  
/host="Rhinolophus affinis"  
/db\_xref="taxon:693998"  
/country="China"  
gene <1..>356  
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CDS <1..>356  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88078"  
/translation="MPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEVVHS  
NGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQRSI  
YDNCYRSSAVDDTVYR"

#### ORIGIN

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1 tatgcctagt atgatacgtg tgcctgctgc tatggttctt ggatctaagc acgttacatg
61 ttgtacagac agtgataggt ttacagact ttctaacgaa cttgcgcaag ttcttaatga
121 agttgtgcat tctaacggag gttttatgt aaaacctggt ggcaactacat caggtgatgc
181 tacaactgct tatgcaaat ctgttttaa catcttcag gcagttagct ctaacattaa
241 taggcttctt tctgtgata gtaatgtgtg taacaactg tatgtcaaaa agcttcagcg
301 ctctatctat gacaattgt ataggtctag tgctgttgat gacactgtgt acagac
```

//

LOCUS MN312459 362 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat alphacoronavirus isolate 8013 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.  
ACCESSION MN312459  
VERSION MN312459  
KEYWORDS .  
SOURCE Bat alphacoronavirus  
ORGANISM Bat alphacoronavirus  
Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 362)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 362)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..362  
/organism="Bat alphacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="8013"  
/host="unknown"  
/db\_xref="taxon:2419667"  
/country="China"  
gene <1..>362  
/gene="RdRp"  
CDS <1..>362  
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/codon\_start=2  
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/protein\_id="QGA88079"  
/translation="LPNMIRMISAMILGSKHTTCCNTDERYYRLCNELAQVLTEVVYS  
NGGFYLPGGTTSGDATTAYANSVFNIFQAVSANINRLLSIDSNVCNNVSVKALQREL  
YDNCYRSSGIDDSFMISI"

#### ORIGIN

1 attaccaac atgattcgta tgatctcagc catgatttg ggtccaac atacaacctg  
61 ttgtaacct gatgagcgtt attacagatt gtgtaatgaa cttgctcaag ttttaacaga  
121 gggtgtctat tccaatggcg gggtttatct aaagcctggt ggtactact ctggtgatgc  
181 aacaacagca tatgcaaact ctgttttaa catcttcaa gctgtcagtg ctaacattaa  
241 caggttactt tctatcgata gtaacgtgtg taataatgtt agtgtcaaag ctctgcagag  
301 agagttgtat gacaactgtt acaggtcgtc gggcatagat gatagcttta tgataagat  
361 ta

//

LOCUS MN312460 356 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 8014 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312460

VERSION MN312460

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 356)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 356)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
source            1..356  
                  /organism="Bat coronavirus 1"  
                  /mol\_type="genomic RNA"  
                  /isolate="8014"  
                  /host="Miniopterus sp."  
                  /db\_xref="taxon:2042696"  
                  /country="China"  
gene             <1..>356  
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CDS              <1..>356  
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                  NGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKDLQRSL  
                  YDNCYRTSTVDPAFVD"

#### ORIGIN

1 atgccta atgattcgta tgatatccgc catgatttg ggtccaagc atgagaattg  
61 ttgtaccaac tctgatcggtt attatagact atgtaatgag ttagctcaag tgctaactga  
121 ggtagtctat tctaattggtg gtttttattt aaaaccaggt ggtacgacat cgggtgatgc  
181 aacgacggct tatgccaact ctgtgtttaa cattttcaa gcagtcagtg ctaacattaa  
241 tcgcatactg ggcgtaata gcaactcttg taataactta acagtaaag atttgcagcg  
301 ctggtgtat gataattgt atcgactag cactgtggac cctgcctttg tagaca

//

LOCUS    MN312461            355 bp    RNA    linear    VRL 07-NOV-2019  
DEFINITION    Rhinolophus bat coronavirus HKU2 isolate 8016 RNA-dependent RNA  
                  polymerase (RdRp) gene, partial cds.

ACCESSION    MN312461

VERSION     MN312461

KEYWORDS    .

SOURCE     Rhinolophus bat coronavirus HKU2

ORGANISM    Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE  1 (bases 1 to 355)

AUTHORS    Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE      Origin and cross-species transmission of bat coronaviruses in China

JOURNAL    Unpublished

REFERENCE  2 (bases 1 to 355)

AUTHORS    Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE      Direct Submission

JOURNAL    Submitted (13-AUG-2019) Key laboratory of special pathogens and  
                  biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
                  Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

source            1..355  
                  /organism="Rhinolophus bat coronavirus HKU2"  
                  /mol\_type="genomic RNA"

/isolate="8016"  
/host="Rhinolophus sp."  
/db\_xref="taxon:693998"  
/country="China"  
gene <1..>355  
/gene="RdRp"  
CDS <1..>355  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88081"  
/translation="MPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEVIHS  
NGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQRSI  
YDNCYRSSAVDDNVVQ"

#### ORIGIN

1 tatgcctagt atgatccgca tgcttgctgc tatggttctt ggatcaaagc atgttacatg  
61 ttgtacagac agtगतataggt ttacagact ttctaataag cttgcacaag ttcttaataga  
121 ggttatacat tccaatggag gttttatgt aaaacccggg ggcactacat caggtgatgc  
181 tacaactgct tatgcaaac ctgtctttaa tattttccag gcagttagct ctaacattaa  
241 tagacttctt tctgttgata gtaatgtgtg taacaattta tatgtaaaaa agcttcagcg  
301 ctctatctat gataattgtt atagatctag tgctgttgat gacaatgttg tacag

//

LOCUS MN312462 345 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 8019 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312462

VERSION MN312462

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 345)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 345)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..345  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="8019"  
/host="Rhinolophus sp."  
/db\_xref="taxon:693998"  
/country="China"  
gene <1..>345  
/gene="RdRp"

CDS <1..>345  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88082"  
/translation="MPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEVIHS  
NGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQRSI  
YDNCYRSSAVDD"

ORIGIN

1 tatgcctagt atgatccgca tgcttgctgc tatggttctt ggatcaaagc atgttacatg  
61 ttgtacagac agtgataggt ttacagact ttctaataaa cttgcacaag ttcttaatga  
121 ggttatacat tccaatggag gttttatgt aaaaccggg ggcactacat caggtgatgc  
181 tacaactgct tatgcaaact ctgtctttaa tattttccag gcagtagct ctaacattaa  
241 tagacttctt tctgttgata gtaatgtgtg taacaattta tatgtaaaaa agcttcagcg  
301 ctctatctat gataattggt atagatctag tgctgttgat gacaaa

//

LOCUS MN312463 366 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat alphacoronavirus isolate 8024 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312463

VERSION MN312463

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 366)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 366)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..366  
/organism="Bat alphacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="8024"  
/host="Rhinolophus sp."  
/db\_xref="taxon:2419667"  
/country="China"

gene <1..>366  
/gene="RdRp"

CDS <1..>366  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88083"

/translation="LPNMIRMISAMILGSKHTTCCNTDERYYRLCNELAQVLTEVVYS  
NGGFYLPKPGTTSGDATTAYANSVFNIFQAVSANINRLLSIDSNVCNNVSVKALQREL  
YDNCYRSSGIDDSFMISIM"

ORIGIN

1 attaccaac atgattcgta tgatctcagc catgatttg ggtccaac atacaacgtg  
61 ttgtaacct gatgagcgtt attacagatt gtgtaatgaa ctgtctcaag ttttaacaga  
121 ggtgtctat tccaatggcg ggtttatct aaagcctggt ggtactact ctggtgatgc  
181 aacaacagca tatgcaact ctgttttaa catcttcaa gctgtcagtg ctaacattaa  
241 caggttactt tcatcgata gtaacgtgtg taataatgtt agtgcaaaag ctctgcagag  
301 agagttgat gacaactgtt acaggtcgtc gggcatagat gatagcttta tgataagtat  
361 tatgta

//

LOCUS MN312464 358 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 8028 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312464

VERSION MN312464

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 358)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 358)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..358

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="8028"

/host="unknown"

/db\_xref="taxon:693998"

/country="China"

gene <1..>358

/gene="RdRp"

CDS <1..>358

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88084"

/translation="MPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEVVHS  
NGGFYVKPGTTSGDATTAYANSVFNIFQAVSSNINRLSVDSNVCNNLYVKKLQRSI  
YDNCYRSSAVDDTVVTD"

ORIGIN

1 tatgcctagt atgatacgta tgcttgctgc catggttctt ggatctaagc acgttacatg

61 ttgtacagac agt gat aggt ttacagact tttaacgaa cttgcgcaag ttctaataga  
121 ggttgatgc tctaattgag gttttatgt aaaacctggt ggcactacat caggtgatgc  
181 tacaactgct tatgcaaat ctgttttaa catcttcag gcagttagct ctaacattaa  
241 caggcttct tctgttgata gtaatgtgtg taacaactg tatgtcaaaa agcttcagcg  
301 ctctatctat gacaattgt ataggtctag tgctgttgat gacactgtg ttacagac

//

LOCUS MN312465 355 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 8044 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312465

VERSION MN312465

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 355)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 355)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..355

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="8044"

/host="Rhinolophus affinis"

/db\_xref="taxon:693998"

/country="China"

gene <1..>355

/gene="RdRp"

CDS <1..>355

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88085"

/translation="MPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEVVHS

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YDNCYRSSAVDDTVYR"

ORIGIN

1 tatgcctagt atgatacgtg tgcctgctgc tatggttctt ggatctaagc acgttacatg

61 ttgtacagac agt gat aggt ttacagact tttaacgag cttgcgcaag ttctaataga

121 agttgtgcat ttaacggag gttttatgt aaaacctggt ggcactacat caggtgatgc

181 tacaactgct tatgcaaat ctgttttaa catcttcag gcagttagct ctaacattaa

241 taggcttct tctgttgata gtaatgtgtg taacaactg tatgtcaaaa agcttcagcg

301 ctctatctat gacaattgt ataggtctag tgctgttgat gacactgtg acaga

//



LOCUS MN312466 358 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 8062 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312466

VERSION MN312466

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 358)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 358)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..358

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="8062"

/host="Miniopterus fuliginosus"

/db\_xref="taxon:693998"

/country="China"

gene <1..>358

/gene="RdRp"

CDS <1..>358

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88086"

/translation="MPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEVVHS  
NGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQRSI  
YDNCYRSSAVDDTCCTD"

ORIGIN

1 tatgcctagt atgatacgta tgcttgctgc tatggttctt ggatctaagc acgttacatg  
61 ttgtacagat agtgataggt tttatagact ttctaacgaa ctgctgcaag ttcttaatga  
121 gggtgtgcat tctaatggag gttttatgt aaaacctggt ggactacat caggtgatgc  
181 tacaactgct tatgcaaatt ctgttttaa tatctccag gcagttagct ctaacatcaa  
241 caggcttct tctgttgata gtaatgtgtg taacaactg tatgtcaaaa agcttcagcg  
301 ctctatctat gacaattgt ataggtctag tgctgtcgat gacacatggt gtacagac

//

LOCUS MN312467 360 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat alphacoronavirus isolate 8083 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312467

VERSION MN312467

KEYWORDS .

SOURCE Bat alphacoronavirus  
ORGANISM Bat alphacoronavirus  
Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.  
REFERENCE 1 (bases 1 to 360)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 360)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers  
source 1..360  
/organism="Bat alphacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="8083"  
/host="Miniopterus sp."  
/db\_xref="taxon:2419667"  
/country="China"  
gene <1..>360  
/gene="RdRp"  
CDS <1..>360  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88087"  
/translation="LPNMIRMISAMILGSKHVCCTASDRYYRLCNELAQVLTEVVHS  
NGGFYMKPGGTTSGDATTAYANSVFNIFQAVSANINRILGINSNTCNNLTVKSIQRML  
YDNCYRTSAVDSGLSTR"

#### ORIGIN

1 acttcctaat atgatacgtg tgatacagc catgattctt ggttctaac atgtaactg  
61 ttgtactgcc tctgataggt attatcgctt ttgtaatgag ttggctcagg ttcttactga  
121 agtcgtccat tcaaatggtg gttctatat gaaacctggc ggtactactt ctggtgatgc  
181 cacaacagct tatgctaatt ctgtgtttaa catttccaa gctgttagtg ccaatattaa  
241 tcgtatattg ggcattaata gcaatacatg taataacctt actgttaagt ctatacagcg  
301 tatgtgtgac gacaattgtt atcgacttc tgctgttgac tctggctgtg cgacacgttt

//

LOCUS MN312468 339 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 8086 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.  
ACCESSION MN312468  
VERSION MN312468  
KEYWORDS .

SOURCE Bat coronavirus 1  
ORGANISM Bat coronavirus 1  
Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 339)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 339)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..339  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="8086"  
/host="Miniopterus sp."  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>339  
/gene="RdRp"  
CDS <1..>339  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88088"  
/translation="LPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEVVYS  
NGGFYLPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKDLQRSL  
YDNCYRTSTV"

ORIGIN

1 attgcctaat atgattcgta tgatatecgc catgattttg ggttctaagc atgagaattg  
61 ttgtaccaac tctgatcggtt attatagact atgcaatgag ttgctcaag tgctaactga  
121 ggtagtctat tctaattggtg gtttttactt aaaaccaggt ggtacgacat cgggtgatgc  
181 aacgacagct tatgccaatt ctgtgtttaa tatctttcaa gcagtcagtg ctaacattaa  
241 tcgcatactg ggcgtaata gcaatacttg taataactta acagttaag atttgcagcg  
301 ctggttgat gataattggt atcgcaactag cactgtaga

//

LOCUS MN312469 283 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat alphacoronavirus isolate 8087 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312469

VERSION MN312469

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 283)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 283)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..283  
/organism="Bat alphacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="8087"  
/host="Miniopterus sp."  
/db\_xref="taxon:2419667"  
/country="China"  
gene <1..>283  
/gene="RdRp"  
CDS <1..>283  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88089"  
/translation="LPNMIRMISAMILGSKHVNCCTASDRYYRLCNELAQVLTEVVHS  
NGGFYMKPGGTTSGDATTAYANSVFNIFQAVSANINRILGINSNTCNNLP"

ORIGIN

1 acttcctaat atgatacgtg tgatcagc catgattctt ggtccaaac atgttaactg  
61 ttgactgcc tctgataggt attatcgctt ttgtaagag ttgctcagg ttctactga  
121 agtcgtccat tcaaatggtg gttctatat gaaacctggc ggtactact ctgggtgatgc  
181 cacaacagct tatgctaatt ctgtgttaa catttccaa gctgtagtg ccaatattaa  
241 tcgtatatt ggcattaata gcaatacatg taataacctt cct

//

LOCUS MN312470 357 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 8090 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312470

VERSION MN312470

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 357)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 357)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
 source            1..357  
                   /organism="Bat coronavirus 1"  
                   /mol\_type="genomic RNA"  
                   /isolate="8090"  
                   /host="Miniopterus sp."  
                   /db\_xref="taxon:2042696"  
                   /country="China"  
 gene              <1..>357  
                   /gene="RdRp"  
 CDS                <1..>357  
                   /gene="RdRp"  
                   /codon\_start=2  
                   /product="RNA-dependent RNA polymerase"  
                   /protein\_id="QGA88090"  
                   /translation="LPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEVVYS  
 NGGFYLKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKDLQRS  
 YDNCYRTSTVDPAFVDT"

ORIGIN

1 attgcctaat atgattcgta tgatatccgc catgattttg ggttctaagc atgagaattg  
 61 ttgtaccaac tctgatcggtt attatagact atgtaatgag ttagctcaag tgctaactga  
 121 ggtagtctat tctaattggtg gtttttattt aaaaccaggt ggtactacat cgggtgatgc  
 181 aacgacggct tatgccaact ctgtgtttaa catctttcaa gcagtcagtg ctaacattaa  
 241 tcgcatattg ggcgtaata gcaatactg taataactg acagttaaag atttgcagcg  
 301 ctggttgat gacaattggt atgcactag cactgtagac cctgccttg tagacac

//

LOCUS    MN312471            358 bp    RNA    linear    VRL 07-NOV-2019  
 DEFINITION    Bat coronavirus 1 isolate 8092 RNA-dependent RNA polymerase (RdRp)  
                   gene, partial cds.

ACCESSION    MN312471

VERSION      MN312471

KEYWORDS     .

SOURCE      Bat coronavirus 1

ORGANISM     Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
 Orthocoronavirinae; Alphacoronavirus; unclassified  
 Alphacoronavirus.

REFERENCE    1 (bases 1 to 358)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
 Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Origin and cross-species transmission of bat coronaviruses in China

JOURNAL      Unpublished

REFERENCE    2 (bases 1 to 358)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
 Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Direct Submission

JOURNAL      Submitted (13-AUG-2019) Key laboratory of special pathogens and  
 biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
 Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

source            1..358  
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/country="China"  
gene <1..>358  
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CDS <1..>358  
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/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88091"  
/translation="LPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEVVYS  
NGGFYLPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKDLQRSL  
YDNCYRTSTVDPAFVDT"

#### ORIGIN

1 attgcctaat atgatccgta tgatatccgc catgatttg ggtccaagc atgagaattg  
61 ttgtaccaac tctgatcgtt attatagact atgcaatgag ttagctcaag tgctaactga  
121 ggtagtctat tctaattggtg gtttttatt aaaaccaggt ggtacgacat cgggtgatgc  
181 aacgacggct tatgccaact ctgtgtttaa tatcttcaa gcagtcagtg ctaacattaa  
241 tcgcatactg ggcgtaata gcaatacttg taataactta acagttaaag attgcagcg  
301 ctcgttgat gacaattgtt atgcactag cactgtagac cctgcctttg tagacacg

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LOCUS MN312472 361 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat alphacoronavirus isolate 8094 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312472

VERSION MN312472

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 361)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 361)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..361  
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/mol\_type="genomic RNA"  
/isolate="8094"  
/host="Rhinolophus sp."  
/db\_xref="taxon:2419667"  
/country="China"  
gene <1..>361  
/gene="RdRp"

CDS <1..>361  
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/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88092"  
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ORIGIN

1 attacctaac atgatccgta tgatttctgc catgatccta gggcttaagc acaccacctg  
61 ctgtaacct gatgagcgtc attaccgttt gtgtaatgag ttggccaag tgcttacgga  
121 agttgtgtac tctaattggcg gttttatct gaaacctggt ggtacaacat ctggtgatgc  
181 gactacagca tacgccaact ctgttttaa catcttcag gctgttagtg ccaacattaa  
241 tagacttttg agcatagata gtaacgtttg taataacatt ggcgtgaagg ctctacagcg  
301 taggtgtac gacaactgct atagatcgtc tagttagat gactctttat tgatgatact  
361 a

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LOCUS MN312473 357 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat alphacoronavirus isolate 8096 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312473

VERSION MN312473

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 357)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 357)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..357  
/organism="Bat alphacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="8096"  
/host="Hipposideros armiger"  
/db\_xref="taxon:2419667"  
/country="China"

gene <1..>357  
/gene="RdRp"

CDS <1..>357  
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/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88093"  
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NGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRLLSIDSNVCNNIGVKSLQRKL  
YDCCYRSSSVDDSFVD"

ORIGIN

1 actccctaat atgattcgca tgattctgc catgatttg ggttcgaagc atgttacttg  
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121 agttgtatat tctaatggtg ggttttatct caagcctggt ggtaccactt ctggcgatgc  
181 tacaacggct tatgctaact ctgtgtttaa tattttcaa gctgttagcg ccaatattaa  
241 caggttgctt agcattgata gcaatgtgtg taataatatt ggtgttaaga gttgcagcg  
301 taagctatat gattgtgtt acagatcttc ttcagtagat gattcttttg tagacag

//

LOCUS MN312474 329 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat alphacoronavirus isolate 8098 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312474

VERSION MN312474

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 329)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 329)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..329

/organism="Bat alphacoronavirus"

/mol\_type="genomic RNA"

/isolate="8098"

/host="Rhinolophus affinis"

/db\_xref="taxon:2419667"

/country="China"

gene <1..>329

/gene="RdRp"

CDS <1..>329

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88094"

/translation="LPNMIRMISAMILGSKHTTCNTDERYYRLCNELAQVLTEVVYS

NGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRLLSIDSNVCNNVSVKALQREM

YDNCYRS"

ORIGIN



1 attacccaac atgattcgta tgatctcagc catgattttg ggttccaaac atacaacctg  
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121 gggtgtctat tccaatggcg gggtttatct aaagcctggt ggtactactt ctggtgatgc  
181 aacaacagca tatgcaaact ctgttttaa catcttcaa gctgtcagtg ctaacattaa  
241 caggttactt tctatcgata gtaacgtgtg taataatgtt agtgtaaag ctctgcagag  
301 agagatgat gacaactgtt acaggtcgt

//

LOCUS MN312475 330 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat alphacoronavirus isolate 8130 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312475

VERSION MN312475

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 330)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 330)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..330

/organism="Bat alphacoronavirus"

/mol\_type="genomic RNA"

/isolate="8130"

/host="Hipposideros armiger"

/db\_xref="taxon:2419667"

/country="China"

gene <1..>330

/gene="RdRp"

CDS <1..>330

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88095"

/translation="LPNMIRMISAMILGSKHTTCCNTDERYYRLCNELAQVLTEVVYS

NGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRFLSIDSNVCNNVSVKDLQREM

YDNCYRSS"

ORIGIN

1 attacccaac atgattcgta tgatctcagc catgattttg ggttccaaac atacaacctg  
61 ttgtaacct gatgagcgtt attacagatt gtgtaatgaa cttgctcaag ttttaacaga  
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181 aacaacagca tatgcaaact ctgttttaa catcttcaa gctgtcagtg ctaacattaa  
241 caggttctt tctattgata gtaacgtgtg taataatgtt agtgtaaag atctgcagag

301 agagatgtat gacaactggt acaggtcgtc

//

LOCUS MN312476 365 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 8131 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312476

VERSION MN312476

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 365)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 365)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..365

/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
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/host="Rhinolophus affinis"  
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/country="China"

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/gene="RdRp"

CDS <1..>365

/gene="RdRp"

/codon\_start=2

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/protein\_id="QGA88096"

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YDNCYRSSAVDDTVVQTLQ"

ORIGIN

1 tatgcctagt atgatacgta tgettgcgc tatggttctt ggatctaagc acgttacatg  
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241 taggettctt tctgttgata gtaatgtgtg taacaactg tatgtcaaaa agcttcagcg  
301 ctctatctat gacaattggt ataggtctag tgctgttgat gacactgttg tacagactct  
361 acaac

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LOCUS MN312477 330 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat alphacoronavirus isolate 8185 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312477

VERSION MN312477

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; unclassified

Alphacoronavirus.

REFERENCE 1 (bases 1 to 330)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 330)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..330

/organism="Bat alphacoronavirus"

/mol\_type="genomic RNA"

/isolate="8185"

/host="Asellius stoliczkanus"

/db\_xref="taxon:2419667"

/country="China"

gene <1..>330

/gene="RdRp"

CDS <1..>330

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88097"

/translation="LPNMIRMISAMILGSKHTTCCNTDERYYRLCNELAQVLTEVVYS

NGGFYLPGGTTSGDATTAYANSVFNIFQAVSANINRFLSIDSNVCSNVSVKALQREM

YDNCYRSS"

ORIGIN

1 attaccaac atgattcgta tgatctcagc catgatttg ggttccaaac atacaacctg

61 ttgtaacct gatgagcgtt attacagatt gtgtaatgaa cttgctcaag tttaacaga

121 ggttgctat tcaatggcg ggtttatct aaagcctggt ggtactactt ctggtgatgc

181 aacaacagca tatgcaaact ctgttttaa catcttcaa gctgtcagtg ctaacattaa

241 caggtttctt tctatcgata gtaactgtg taatacgtt agtgtcaaag ctcttcagcg

301 agagatgat gacaactgtt acaggtcgtc

//

LOCUS MN312478 357 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 8210 RNA-dependent RNA

polymerase (RdRp) gene, partial cds.

ACCESSION MN312478

VERSION MN312478

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 357)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 357)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..357

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="8210"

/host="Rhinolophus sinicus"

/db\_xref="taxon:693998"

/country="China"

gene <1..>357

/gene="RdRp"

CDS <1..>357

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88098"

/translation="MPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEVVHS

NGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQRSI

YDNCYRSSVDDTVLQT"

ORIGIN

1 tatgcctagt atgatacgca tgcttgctgc tatggttctt ggttcaaagc atgttacatg  
61 ttgtacagac agtgataggt ttacagact ttctaataaa cttgcacaag ttcttaataa  
121 gggtgtgcat tctaattgtg gttttatgt aaaacctggt ggactacat ctggtgatgc  
181 tacgactgct tatgcgaatt ccggttttaa catcttcag gcagtagct ctaataataa  
241 caggcttctt tctgtgata gcaatgttg taacaattg tatgtcaaaa agcttcagcg  
301 ctctatctat gacaattgt ataggtctag tgtgttgat gacactgtg tacagac

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LOCUS MN312479 361 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 8235 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312479

VERSION MN312479

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 361)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 361)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..361  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
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/host="Rhinolophus affinis"  
/db\_xref="taxon:693998"  
/country="China"  
gene <1..>361  
/gene="RdRp"  
CDS <1..>361  
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/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88099"  
/translation="MPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEVVHS  
NGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQRSI  
YDNCYRSSAVDDTVYRLY"

#### ORIGIN

1 tatgcctagt atgatacgta tgettgetgc tatggttctt ggatctaagc acgttacatg  
61 ttgtacagac agtगतaggt ttacagact tctaacgaa cttgcgcaag ttctaatga  
121 agttgtgcat tcaacggag gttttatgt aaaacctggt ggcactacat caggtgatgc  
181 tacaactgct tatgcaaatt ctgttttaa catcttcag gcagttagct ctaacattaa  
241 taggettctt tctgttgata gtaatgtgtg taacaacttg tatgtcaaaa agcttcagcg  
301 ctctatctat gacaattgtt ataggtctag tgctgttgat gacactgtgt acagactcta  
361 c

//

LOCUS MN312480 355 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 8236 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.  
ACCESSION MN312480  
VERSION MN312480  
KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2  
ORGANISM Rhinolophus bat coronavirus HKU2  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 355)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 355)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..355  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="8236"  
/host="Rhinolophus sp."  
/db\_xref="taxon:693998"  
/country="China"  
gene <1..>355  
/gene="RdRp"  
CDS <1..>355  
/gene="RdRp"  
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/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88100"  
/translation="MPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEVIHS  
NGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQRSI  
YDNCYRSSAVDDNVVQ"

ORIGIN

1 tatgcctagt atgatccgca tgcttgctgc tatggttctt ggatcaaagc atgttacatg  
61 ttgtacagac agtgataggt ttacagact ttctaataag cttgcacaag ttcttaataga  
121 ggttatacat tccaatggag gttttatgt aaaacccggg ggcactacat caggtgatgc  
181 tacaactgct tatgcaaac ctgtctttaa tattttccag gcagttagct ctaacattaa  
241 tagacttctt tctgttgata gtaatgtgtg taacaattta tatgtaaaaa agcttcagcg  
301 ctctatctat gataattgtt atagatctag tgctgttgat gacaatgttg tacag

//

LOCUS MN312481 359 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat alphacoronavirus isolate 8249 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312481

VERSION MN312481

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 359)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 359)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..359

/organism="Bat alphacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="8249"  
/host="Rhinolophus affinis"  
/db\_xref="taxon:2419667"  
/country="China"  
gene <1..>359  
/gene="RdRp"  
CDS <1..>359  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88101"  
/translation="LPNMIRMISAMILGSKHITCCNTDERYYRLCNELAQVLTEVVYS  
NGGFYLPGGTTSGDATTAYANSVFNIFQAVSANINRLLSIDSNVCNNVSVKALQREL  
YDNCYRSSGIDDSFMTS"

#### ORIGIN

1 attacccaac atgattcgta tgatctcagc catgattttg ggtccaac atataacctg  
61 ttgtaacct gatgagcgtt attacagatt gtgtaatgaa cttgctcaag ttttaacaga  
121 gggtgtctat tccaatggag gggtttattt aaaacctggt ggtactactt ctggatgagc  
181 aacaacagca tatgcaaatt ctgttttaa catcttcaa gctgtcagtg ctaacattaa  
241 caggttactt tctatcgata gtaacgtgtg taataatgtt agtgtaaag ctcttcagag  
301 agagttgtat gacaactgtt acaggtcatc aggcatagat gatagtttta tgacaagta

//

LOCUS MN312482 361 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat alphacoronavirus isolate 8250 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312482

VERSION MN312482

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 361)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 361)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..361  
/organism="Bat alphacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="8250"  
/host="Rhinolophus affinis"  
/db\_xref="taxon:2419667"

gene /country="China"  
<1..>361  
/gene="RdRp"  
CDS <1..>361  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88102"  
/translation="LPNMIRMISAMILGSKHITCCNTDERYYRLCNELAQVLTEVVYS  
NGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRLLSIDSNVCNNVSVKALQREL  
YDNCYRSSGIDDSFMTSI"

ORIGIN

1 attaccaac atgattegta tgatctcagc catgatttg ggtccaaac atataacctg  
61 ttgtaacct gatgagcgtt attacagatt gtgtaatgaa cttgctcaag ttttaacaga  
121 ggtgtctat tccaatggag ggttttattt aaaacctggt ggtactact ctggtgatgc  
181 aacaacagca tatgcaaatt ctgttttaa catcttcaa gctgtcagtg ctaacattaa  
241 caggttactt tctatcgata gtaacgtgtg taataatgtt agtgtcaaag ctcttcagag  
301 agagttgtat gacaactgtt acaggtcatc aggcatagat gatagttta tgacaagat  
361 a

//

LOCUS MN312483 375 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 8598 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312483

VERSION MN312483

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 375)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 375)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..375  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="8598"  
/host="Miniopterus schreibersii"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>375  
/gene="RdRp"  
CDS <1..>375



/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
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/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKEL  
QRSLYDNCYRTSTVDPAFVDMF"

ORIGIN

1 aatgtgatag agctttgect aatgatgacc gtatgatatac cgccatgatt ttgggttcta  
61 aacatgaaaa ttgtgtact aactctgacc gttattatag actatgtaac gagttggctc  
121 aagtgctaac tgaagtggtc tattctaacg gcggttttta tttaaaacca ggtggtacga  
181 catcaggtga tgcaacgaca gcttatgcca attctgtttt taacatcttt caagcagtta  
241 gtgctaacat taatcgtatt ttgggcgta atagcaatac ttgcaataac ttgacagtta  
301 aagagttgca acgctcattg tatgataatt gttatcgcac tagtactgtt gaccctgect  
361 ttgtagacat gttta

//

LOCUS MN312484 374 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 8601 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312484

VERSION MN312484

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 374)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 374)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..374  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="8601"  
/host="Miniopterus schreibersii"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>374  
/gene="RdRp"

CDS <1..>374  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88104"

/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKEL  
QRSLYDNCYRTSTVDPAFVDTF"

ORIGIN

1 aatgtgatag agctttgect aatatgattc gtatgatata cgccatgatt ttgggttcta  
61 aacatgaaaa ttgtgtact aactctgacc gttattatag actatgtaat gagttggctc  
121 aagtgctaac tgaagtggtc tattctaacg gcggttttta tttaaaacca ggtggtacga  
181 catcaggtga tgcaacgaca gcttatgcca attctgtttt taacatcttt caagcagtta  
241 gtgctaacat taatcgcatt ttgggcggtta atagcaacac ttgtaataac ttgacagtta  
301 aagagttgca acgctcattg tatgacaatt gttatcgcac tagtactgtt gaccctgcct  
361 ttgtagacac gttt

//

LOCUS MN312485 372 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 8607 RNA-dependent RNA polymerase (RdRp)

gene, partial cds.

ACCESSION MN312485

VERSION MN312485

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 372)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 372)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..372

/organism="Bat coronavirus 1"

/mol\_type="genomic RNA"

/isolate="8607"

/host="Miniopterus pusillus"

/db\_xref="taxon:2042696"

/country="China"

gene <1..>372

/gene="RdRp"

CDS <1..>372

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88105"

/translation="GWDYPKCDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNEL

AQVLTEVVYSNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNN

LTVKSLQRSLYDNCYRTSTVDP"

ORIGIN

1 gggtgggatt atcctaatg tgatagagca ttgctaata tgatccgtat gatatccgcc  
61 atgattttgg gttctaagca tgagaattgt tgtactaact ctgaccgta ttagagacta  
121 tgcaacgagt tggetcaagt gctaactgag gtggctctatt ctaatggcgg ttttatcta  
181 aaaccaggtg gtacgacatc ggggtgatgca acgacggctt atgccaattc agtgtttaat  
241 atctttcaag cagtcagtgc taacattaat cgcattttgg gtgtaataag caatactgc  
301 aataacttga cagttaaaag tttgcagcgc tctttgatg acaattgta tcgactagt  
361 actgtggacc cc

//

LOCUS MN312486 373 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 8611 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312486

VERSION MN312486

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 373)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 373)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..373

/organism="Bat coronavirus 1"

/mol\_type="genomic RNA"

/isolate="8611"

/host="Miniopterus schreibersii"

/db\_xref="taxon:2042696"

/country="China"

gene <1..>373

/gene="RdRp"

CDS <1..>373

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88106"

/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE

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QRSLYDNCYRTSTVDPAFVDMF"

ORIGIN

1 tgtgatagag ctttgctaa tatgattcgt atgatatccg ccatgatttt gggttctaaa

61 catgaaaatt gttgactaa ctctgaccgt tattatagac tatgtaata gttggetcaa

121 gtgctaactg aagtggctta ttctaacggc gggttttatt taaaaccagg tggtagcaca

181 tcaggtgatg caacgacagc ttatgccaat tctgtttta acatctttca agcagtagt

241 gctaacatta atcgtatttt gggcgtaaat agtaatactt gcaataactt gacagttaa  
301 gagttgcaac gctcattgta tgataattgt tatcgacta gtactgtga ccctgcctt  
361 gtagacatgt tta

//

LOCUS MN312487 370 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 8613 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312487

VERSION MN312487

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..370

/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="8613"  
/host="Miniopterus schreibersii"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>370

/gene="RdRp"

CDS <1..>370

/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88107"  
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VVYSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKSL  
QRSLYDNCYRTSTVDPAFVDT"

ORIGIN

1 atgtgataga gcattgccta atatgattcg tatgatatcc gccatgattt tgggttctaa  
61 gcatgagaat tgtgtacta actctgaccg ttattataga ctatgtaacg agttggctca  
121 agtgctaact gagtagtct attctaattg cggttttac taaaaccag gtggtacgac  
181 atcgggtgat gcaacgacgg cttatgcca ttcagtgtt aatatcttc aagcagtcag  
241 tgctaacatt aatgcattt tggcggttaa tagcaatact tgtaataact tgacagttaa  
301 aagtttgag cgctcttgt atgacaattg ttatgcact agtactgtgg accctgcctt  
361 ttagacaca

//

LOCUS MN312488 370 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 8614 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312488

VERSION MN312488

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..370

/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="8614"  
/host="Miniopterus pusillus"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>370

/gene="RdRp"

CDS <1..>370

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88108"

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VVYSNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNLTVKSL

QRSLYDNCYRTSTVDPAFVDT"

ORIGIN

1 atgtgataga gcattgccta atatgatccg tatgatatcc gccatgatt tgggttctaa  
61 gcatgagaat tgttgtaact actctgaccg ttattataga ctatgcaacg agttggctca  
121 agtgctaacc gaggtagtct attctaatgg cggttttat ctaaaccag gtggtacgac  
181 atcgggtgat gcaacgacgg cttatgccaa ttcagtgtt aatatcttc aagcagtcag  
241 tgctaacatt aatgcgatt tgggcgtaa cagcaatact tgaataact tgacagtaa  
301 aagtttgag cgctcttgt atgacaattg ttatgcact agtactgtgg accctgcctt  
361 tgtagacaca

//

LOCUS MN312489 371 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 8615 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312489

VERSION MN312489

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 371)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 371)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..371  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="8615"  
/host="Miniopterus pusillus"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>371  
/gene="RdRp"  
CDS <1..>371  
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/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88109"  
/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKSL  
QRSLYDNCYRTSTVDPAFVDT"

ORIGIN

1 aatgtgatag agcattgcct aatgatgcc gtatgatc cgccatgatt ttgggttcta  
61 agcatgagaa ttgtgtact aactctgacc gttactatag actatgtaac gagttggctc  
121 aagtgctaac cgaggtagtc tattctaata gttgtttta ttaaaacca ggtggtacga  
181 catcgggtga tgcaacgacg gcttatgcca atcagtggt taacatctt caagcagtc  
241 gtgtaacat taatgcatt ttggcggtta atagaatac ttgtaataac ttaacagtta  
301 aaagtttgc gcgctcttg tatgacaatt gttatgcac tagtactgtg gaccctgcct  
361 ttgtagacac a

//

LOCUS MN312490 370 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 8617 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312490

VERSION MN312490

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..370  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="8617"  
/host="Miniopterus pusillus"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>370  
/gene="RdRp"  
CDS <1..>370  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88110"  
/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPKGGTTS GDATTAYANSVFNIFQAVSANINRILGVNSNTCNLTVKSL  
QRSLYDNCYRTSTVDPAFVDT"

ORIGIN

1 atgtgataga gcattgccta atatgatccg tatgatatcc gccatgatt tgggttctaa  
61 gcatgagaat tgttgtaact actctgaccg ttattataga ctatgtaacg agttggctca  
121 agtgctaact gaagtagtct attctaattg tgggttttac ctaaaccag gtggtacgac  
181 atcgggtgat gcaacgacgg cttatgccaa ttcagtgttt aatatcttc aagcagtcag  
241 tgctaacatt aatcgattt tgggcgttaa tagcaatact tgcaataact tgacagtaa  
301 aagtttgag cgctcttgt atgacaattg ttatcgcaact agtactgtag accctgcctt  
361 ttagacaca

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LOCUS MN312491 368 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 8618 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.  
ACCESSION MN312491  
VERSION MN312491  
KEYWORDS .

SOURCE Bat coronavirus 1  
ORGANISM Bat coronavirus 1  
Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 368)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 368)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..368  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="8618"  
/host="Miniopterus schreibersii"  
/db\_xref="taxon:2042696"  
/country="China"  
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/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
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/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKEL  
QRSLYDNCYRTSTVDPAFVD"

ORIGIN

1 atgtgataga gctttgcta atatgattcg tatgatatcc gccatgattt tgggttctaa  
61 acatgaaat tgttgtaact actctgaccg ttattataga ctatgtaatg agttggctca  
121 agtgctaact gaagtggctc attctaacgg cggttttat taaaaccag gtggtacgac  
181 atcaggtgat gcaacgacag cttatgcaa ttctgtttt aacatcttc aagcagtag  
241 tgtaacatt aatcgtattt tgggcgtaa tagcaatact tgcaataact tgacagtaa  
301 agagttgcaa cgctcattgt atgataattg ttatcgcact agtactgttg accctgcctt  
361 ttagaca

//

LOCUS MN312492 369 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 8619 RNA-dependent RNA polymerase (RdRp)

gene, partial cds.

ACCESSION MN312492

VERSION MN312492

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 369)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished



REFERENCE 2 (bases 1 to 369)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..369  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="8619"  
/host="Miniopterus pusillus"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>369  
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CDS <1..>369  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88112"  
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AQVLTEVVYSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNN  
LTVKSLQRSLYDNCYRTSTV"

ORIGIN

1 tggttgggat taccctaaat gtgatagagc attgcctaat atgatccgta tgatatccgc  
61 catgattttg ggttctaagc atgagaattg ttgtactaac tctgaccgtt actatagact  
121 atgtaacgag ttgctcaag tgctaaccga ggtagtctat tctaattggcg gttttattt  
181 aaaaccaggt ggtacgacgt cgggtgatgc aacgacggct tatgccaatt cagtgtttaa  
241 catctttcaa gcagtttagt ctaacattaa tcgcattttg ggcgtaata gcaatacttg  
301 caataactta acagttaaaa gtttcgacgc ctctttgat gacaattgtt atcgcactag  
361 tactgtgga

//

LOCUS MN312493 370 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 8620 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312493

VERSION MN312493

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..370  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="8620"  
/host="Miniopterus schreibersii"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>370  
/gene="RdRp"  
CDS <1..>370  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88113"  
/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKEL  
QRSLYDNCYRTSTVDPAFVDT"

ORIGIN

1 atgtgataga gctttgcta atatgattcg tatgatatcc gccatgattt tgggttctaa  
61 acacgaaaat tgtgtacta actctgaccg ttattataga ctatgtaatg agttggctca  
121 agtgctaact gaagtggctc attctaacgg cggttttat taaaaccag gtggtacgac  
181 atcaggtgat gcaacgacag cttatgcaa ttctgtttt aatatcttc aagcagttag  
241 tgctaacatt aatgcattt tgggcgttaa tagcaacact tgtaataact tgacagtaa  
301 agagttgcaa cgctcattg atgacaattg ttatgcact agtactgttg accctgcctt  
361 tgtagacacg

//

LOCUS MN312494 375 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 8621 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312494

VERSION MN312494

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 375)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 375)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..375  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="8621"  
/host="Miniopterus schreibersii"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>375  
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CDS <1..>375  
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/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88114"  
/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKEL  
QRSLYDNCYRTSTVDPAFVDTF"

#### ORIGIN

1 aatgtgatag agctttgect aatatgattc gtatgatatc cgccatgatt ttgggttcta  
61 agcatgaaa ttgtgtact aactctgacc gttattatag attatgtaac gagttggcac  
121 aagtgtaac tgaagtggtc tattctaacg gcggtttta tttaaaccac ggtggtacga  
181 catcaggtga tgcaacgaca gcttatgcca attctgttt taatatctt caagcagtca  
241 gtgtaacat taatcgatt ttgggcgta acagcaatac ttgcaataac ttgacagta  
301 aagagttgca acgctcatt tatgacaatt gttatcgcac tagtactgtt gaccctgcct  
361 ttgtagacac gtttt

//

LOCUS MN312495 351 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 8622 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312495

VERSION MN312495

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 351)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 351)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..351  
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/mol\_type="genomic RNA"  
/isolate="8622"

/host="Miniopterus schreibersii"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>351  
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CDS <1..>351  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
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QRSLYDNCYRTSTV"

ORIGIN

1 atgtgataga gctttgcta atatgattcg tatgatatcc gccatgattt tgggttctaa  
61 acacgaaaat tgtgtacta actctgaccg ttattataga ctatgtaatg agttggctca  
121 agtgctaact gaagtggctc attctaacgg cggttttat taaaaccag gtggtacgac  
181 atcaggtgat gcaacgacag cttatgcaa ttctgtttt aatatcttc aagcagttag  
241 tgctaacatt aatgcattt tgggcgtaa tagcaacact tgtaataact tgacagtaa  
301 agagttgcaa cgctcattg atgacaattg ttatgcact agtactgttg a

//

LOCUS MN312496 351 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 8623 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312496

VERSION MN312496

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 351)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 351)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..351  
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/mol\_type="genomic RNA"  
/isolate="8623"  
/host="Miniopterus schreibersii"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>351  
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CDS <1..>351  
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/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88116"  
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VVYSNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNLTVKEL  
QRSLYDNCYRTSTV"

ORIGIN

1 atgtgataga gctttgccta atatgattcg tatgatatcc gccatgattt tgggttctaa  
61 gcatgaaaat tgttgacta actctgaccg ttattataga ttatgtaacg agttggcaca  
121 agtgctaact gaagtgtct attctaacgg cggttttat taaaaccag gtggtacgac  
181 atcaggtgat gcaacgacag cttatgccaa ttctgtttt aatatcttc aagcagtcag  
241 tgctaacatt aatgcattt tgggcggtta cagcaatact tgcaataact tgacagtaa  
301 agagttgcaa cgctcattg atgacaattg ttatgcact agtactgttg a

//

LOCUS MN312497 351 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 8624 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312497

VERSION MN312497

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 351)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 351)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..351  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="8624"  
/host="Miniopterus schreibersii"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>351  
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CDS <1..>351  
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/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88117"

/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKEL  
QRSLYDNCYRTSTV"

ORIGIN

1 atgtgataga gctttgccta atatgattcg tatgatatcc gccatgattt tgggttctaa  
61 gcatgaaaat tgttgacta actctgaccg ttattataga ttatgtaacg agttggcaca  
121 agtgetaact gaagtgtct attctaacgg cggttttat ttaaaccag gtggtacgac  
181 atcagtgat gcaacgacag cttatgcca tctgtttt aatatcttc aagcagtcag  
241 tgctaacatt aatcgattt tgggcgtaa cagcaact tgcaataact tgacagtaa  
301 agagttgcaa cgctcattg atgacaattg tctgcact agtactgttg a

//

LOCUS MN312498 368 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 8638 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312498

VERSION MN312498

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 368)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 368)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..368

/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="8638"  
/host="Miniopterus schreibersii"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>368

/gene="RdRp"

CDS <1..>368

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88118"

/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKEL  
QRSLYDNCYRTSTVDPAFVD"

ORIGIN

1 atgtgataga gctttgccta atatgattcg tatgatatcc gccatgattt tgggttctaa

61 acatgaaaat tgtgtacta actctgaccg ttattataga ctatgtaatg agttggctca  
121 agtgctaact gaagtggctt attctaacgg cggttttat taaaaccag gtggtacgac  
181 atcaggtgat gcaacgacag cttatgcca ttctgtttt aacatcttcc aagcagttag  
241 tgctaacatt aatcgtatt tgggcgtaa tagcaatact tgcaataact tgacagtaa  
301 agagttgcaa cgctcattgt atgataattg ttatcgcact agtactgttg accctgcctt  
361 ttagaca

//

LOCUS MN312499 351 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 8639 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312499

VERSION MN312499

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 351)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 351)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..351

/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="8639"  
/host="Miniopterus pusillus"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>351

/gene="RdRp"

CDS <1..>351

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

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VVYSNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNLTVKSL

QRSLYDNCYRTSTV"

ORIGIN

1 atgtgataga gcattgccta atatgatccg tatgatatcc gccatgatt tgggttctaa  
61 gcatgagaat tgtgtacta actctgaccg ttattataga ctatgcaacg agttggctca  
121 agtgctaacc gaggtggctt attctaattg cggttttac ctaaaccag gtggtacgac  
181 atcgggtgat gcaacgacgg cttatgcca ttactgttt aatatcttcc aagcagttag  
241 tgctaacatt aatcgcattt tgggcgtaa tagcaatact tgcaataact tgacagtaa

301 aagtttgacg cgctcttgt atgacaattg ttatgcact agtactgtag a  
//  
LOCUS MN312500 370 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 8641 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.  
ACCESSION MN312500  
VERSION MN312500  
KEYWORDS .  
SOURCE Bat coronavirus 1  
ORGANISM Bat coronavirus 1  
Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.  
REFERENCE 1 (bases 1 to 370)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 370)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
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181 atcgggtgat gcaacgacgg cttatgcca ttacagtgtt aatatcttc aagcagtcag  
241 tgctaacatt aatcgattt tgggcgtaa tagcaacact tgtaataact tgacagtaa  
301 aagtttgacg cgctcttgt atgacaactg ttatgcact agtactgtgg accctgcctt  
361 ttagacaca  
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LOCUS MN312501 370 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 8646 RNA-dependent RNA polymerase (RdRp)



gene, partial cds.  
 ACCESSION MN312501  
 VERSION MN312501  
 KEYWORDS .  
 SOURCE Bat coronavirus 1  
 ORGANISM Bat coronavirus 1  
 Viruses; Riboviria; Nidovirales; Coronaviridae;  
 Orthocoronavirinae; Alphacoronavirus; unclassified  
 Alphacoronavirus.  
 REFERENCE 1 (bases 1 to 370)  
 AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
 Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
 TITLE Origin and cross-species transmission of bat coronaviruses in China  
 JOURNAL Unpublished  
 REFERENCE 2 (bases 1 to 370)  
 AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
 Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
 TITLE Direct Submission  
 JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
 biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
 Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
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 241 tgctaacatt aatcgattt tgggcgttaa tagcaacact tgtaataact tgacagttaa  
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 361 ttagacaca  
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 LOCUS MN312502 370 bp RNA linear VRL 07-NOV-2019  
 DEFINITION Bat coronavirus 1 isolate 8651 RNA-dependent RNA polymerase (RdRp)  
 gene, partial cds.  
 ACCESSION MN312502  
 VERSION MN312502  
 KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..370

/organism="Bat coronavirus 1"  
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/isolate="8651"  
/host="Miniopterus pusillus"  
/db\_xref="taxon:2042696"  
/country="China"

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/gene="RdRp"

CDS <1..>370

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QRSLYDNCYRTSTVDPAFVDT"

ORIGIN

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181 atcgggtgat gcaacgacgg cttatgcca ttacagtgtt aatatcttc aagcagtcag  
241 tgctaacatt aatgcattt tgggcgtaa tagcaatact tgaataact tgacagtaa  
301 aagtttcag cgctcttgt atgacaattg ttatgcact agtactgtgg accctgcctt  
361 ttagacaca

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LOCUS MN312503 365 bp RNA linear VRL 07-NOV-2019

DEFINITION Miniopterus bat coronavirus HKU8 isolate 8653 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312503

VERSION MN312503

KEYWORDS .

SOURCE Miniopterus bat coronavirus HKU8

ORGANISM Miniopterus bat coronavirus HKU8

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Minunacovirus.

REFERENCE 1 (bases 1 to 365)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 365)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

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/country="China"  
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ORIGIN

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61 tatgatttg ggtcctaagc atgtaattg ttgtaccaat tcagatcgtt attatagact  
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241 catattccag gctgtagtg ctaataata taggatttg ggtattaata gtaatacctg  
301 taataatctt actgtaagt cactcagcg catgctttat gacaattgt atagaagtc  
361 tgccg

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LOCUS MN312504 370 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 8654 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312504

VERSION MN312504

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 370)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
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ORIGIN

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241 tgtaacatt aatgcattt tgggcgtaa cagcaatact tgcaataact tgacagtaa  
301 agagttgcaa cgctcattg atgacaattg tcatgcact agtactgttg acctgcctt  
361 tgtagacag

//

LOCUS MN312505 372 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 8658 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312505

VERSION MN312505

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 372)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 372)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
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LQRSLYDNCYRTSTVDPAFVDT"

ORIGIN

1 aaatgtgata gagcattgcc taatatgatt cgtatgatat cgcctatgat tttgggttct  
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181 acatcggggtg atgcaacgac ggcttatgcc aattcagtgt ttaatatctt tcaagcagtc  
241 agtgetaaca ttaatcgcat tttgggcgtt aatagcaata cttgcaataa cttgacagtt  
301 aaaagtttgc agcgcctttt gtatgacaat tgttatcgca ctagtactgt ggaccccgcc  
361 ttttagaca ca

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LOCUS MN312506 370 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 8663 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312506

VERSION MN312506

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
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ORIGIN

1 atgtgataga gcattgccta atatgattcg tatgatatcc gccatgattt tgggttctaa  
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 181 gtcgggtgat gcaacgacgg cttatccaa ttcagtgttt aacatttttc aagcagtcag  
 241 tgtaacatt aatcgattt tgggcgtaa tagcaatact tgcaataact taacagtaa  
 301 aagtttgag cgctcttgt atgacaattg ttatcgact agtactgtgg accctgcctt  
 361 tgtagacaca

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LOCUS    MN312507            393 bp    RNA    linear    VRL 07-NOV-2019  
 DEFINITION    Miniopterus bat coronavirus HKU8 isolate 8665-1 RNA-dependent RNA  
 polymerase (RdRp) gene, partial cds.

ACCESSION    MN312507

VERSION      MN312507

KEYWORDS     .

SOURCE      Miniopterus bat coronavirus HKU8

ORGANISM    Miniopterus bat coronavirus HKU8

Viruses; Riboviria; Nidovirales; Coronaviridae;  
 Orthocoronavirinae; Alphacoronavirus; Minunacovirus.

REFERENCE    1 (bases 1 to 393)

AUTHORS     Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
 Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE        Origin and cross-species transmission of bat coronaviruses in China

JOURNAL     Unpublished

REFERENCE    2 (bases 1 to 393)

AUTHORS     Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
 Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE        Direct Submission

JOURNAL     Submitted (13-AUG-2019) Key laboratory of special pathogens and  
 biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
 Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

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#### ORIGIN

1 ccgatgattg cccaacatga ttcgtatgat ttctgctatg atttggggtt ctaagcatgt  
61 taactgttgt accaattcag atcgttatta tagactctgt aatgagcttg cacaagttct  
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181 tgacgccact acggcctatg ctaattctgt ctcaacata ttccaggctg ttagtgctaa  
241 tattaacagg atttgggta ttaatagtaa tacctgtaat aatcttgctg ttaagtcctt  
301 acagegtatg ctttatgaca attgttatag aagttctgct gttgaccctg gttttgtga  
361 tacttttac ggctacttgc ggaagcactt ctc

//

LOCUS MN312508 434 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 8665-2 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312508

VERSION MN312508

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 434)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 434)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

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/country="China"

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CDS /gene="RdRp"  
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VKSLQRSLYDNCYRTSTVDPAFVDTFYGYLRKHFSMMIQLMM"

ORIGIN

1 gattacccta aatgtgatag agcattgcct aatatgattc gtatgatttc tgccatgatt  
61 ttgggttcta agcatgagaa ttgtgtact aactctgacc gttactatag actatgcaac  
121 gagttggctc aagtgctaac tgaggtggc tattctaag gcggtttta tctaaaacca  
181 ggtggtacga catcgggtga tgcaacgacg gcttatgcca attcagtgtt taatatctt  
241 caagcagta gtgctaacat taatcgatt ttggcggtta atagcaatac ttgcaataac  
301 ttgacagta aaagtttga gcgctcttg tatgacaatt gttatcgac tagtactgtg  
361 gacctgect tttagacac atttatggt tacttacgca aacattctc tatgatgatt  
421 caactgatga tgga

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LOCUS MN312509 370 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 8667 RNA-dependent RNA polymerase (RdRp)

gene, partial cds.

ACCESSION MN312509

VERSION MN312509

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

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/country="China"

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CDS <1..>370  
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/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88129"  
/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKSL  
QRSLYDNCYRTSTVDPAFVDT"

ORIGIN

1 atgtgataga gcaatgceta atatgattcg tatgatatcc gccatgattt tgggttctaa  
61 gcatgagaat tgggtacta actctgaccg ttactataga ctatgcaacg agttggctca  
121 agtgctaact gaggtggctc attctaattg cggtttttat ctaaaccag gtggtacgac  
181 atcgggtgat gcaacgacgg cttatgcca ttcagtgtt aatatcttc aagcagtcag  
241 tgtaacatt aatcgcaatt tgggcgtaa tagcaatact tgcaataact tgacagtaa  
301 aagtttgag cgctcttgt atgacaattg ttatcgcaact agtactgtgg accctgcctt  
361 ttagacaca

//

LOCUS MN312510 355 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 8670 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312510

VERSION MN312510

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 355)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 355)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..355

/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="8670"  
/host="Miniopterus pusillus"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>355

/gene="RdRp"

CDS <1..>355

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88130"

/translation="DYPKCDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQ

VLTEVVYSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLT  
VKSLQRSLYDNCYRTS"

ORIGIN

1 tgattacca aaatgtgata gagcattgcc taatatgac cgtatgat cgcctatgat  
61 tttgggttct aagcatgaga attgtgtac taactctgac cgttattata gactatgcaa  
121 cgagttggct caagtgctaa ctgaggtggc ctattctaat ggcggtttt acctaaaacc  
181 aggtggtagc acatcgggtg atgcaacgac ggcttatgcc aattcagtgt ttaatattt  
241 tcaagcagtc agtgtaaca ttaatcgcat tttgggcgtt aatagcaata cttgcaataa  
301 cttgacggtt aaaagttgc agcgcctctt gtatgacaat tgtatcgca ctagt

//

LOCUS MN312511 417 bp RNA linear VRL 07-NOV-2019  
DEFINITION Miniopterus bat coronavirus HKU8 isolate 8680-1 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312511

VERSION MN312511

KEYWORDS .

SOURCE Miniopterus bat coronavirus HKU8

ORGANISM Miniopterus bat coronavirus HKU8

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Minunacovirus.

REFERENCE 1 (bases 1 to 417)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 417)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..417

/organism="Miniopterus bat coronavirus HKU8"  
/mol\_type="genomic RNA"  
/isolate="8680-1"  
/host="Miniopterus schreibersii"  
/db\_xref="taxon:694001"  
/country="China"

gene <1..>417

/gene="RdRp"

CDS <1..>417

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88131"

/translation="GWDYPKCDRALPNMIRMISAMILGSKHVNCTNSDRYYRLCNEL

AQVLTEVVYSNGGFYMKPGGTTSGDATTAYANSVFNIFQAVSANINRILGINSNTCNN

LTVKSLQRMLYDNCYRSSAVDPGFVDTFYGYLRKHFS"

ORIGIN

1 tggttgggat taccaaagt gtgatcgtgc attgcctaac atgattcgta tgattctgc  
61 tatgatttg ggttctaagc atgtaattg ttgtaccaat tcagatcgtt attatagact  
121 ttgtaatgaa cttgcacaag ttctactga ggtggtctat tctaacgggg gtttctatat

181 gaagcctggt ggtactact ctggtgatgc cactactgcc tatgctaatt ctgtttcaa  
241 catattccag gctgtagtg ctaatattaa taggatttg ggtattaata gtaatacctg  
301 taataatctt actgtaagt cacttcagcg catgctctat gacaattggt atagaagttc  
361 tgccgtgat cctggtttg ttgatacgtt ttatggctac ttgcgtaagc atttctc

//

LOCUS MN312512 410 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 8680-2 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312512

VERSION MN312512

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; unclassified

Alphacoronavirus.

REFERENCE 1 (bases 1 to 410)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 410)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..410

/organism="Bat coronavirus 1"

/mol\_type="genomic RNA"

/isolate="8680-2"

/host="Miniopterus schreibersii"

/db\_xref="taxon:2042696"

/country="China"

gene <1..>410

/gene="RdRp"

CDS <1..>410

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88132"

/translation="DYPKCDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQ

VLTEVVYSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNLNT

VKELQRSLYDNCYRTSTVDPFVDTFYGYLRKHFS"

ORIGIN

1 gattatcaa agtgtgacag agctttgctt aatatgattc gtatgatc cgccatgatt

61 ttgggttcta agcatgaaaa ttgtgtact aactctgacc gttattatag attatgtaac

121 gagttggcac aagtgctaac tgaagtggc tattctaacg gcggtttta tttaaaacca

181 ggtggtacga catcaggtga tgcaacgaca gcttatgcca attctgttt taatatcttt

241 caagcagta gtgctaacat taatgcatt ttgggcgta acagcaatac ttgcaataac

301 ttgacagta aagagttgca acgctcattg tatgacaatt gttatgcac tagtactgtt

361 gaccctgct tttagacac gttttatggt tactacgca aacatttctc

//  
LOCUS MN312513 370 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate 8681 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.  
ACCESSION MN312513  
VERSION MN312513  
KEYWORDS .  
SOURCE Bat coronavirus 1  
ORGANISM Bat coronavirus 1  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.  
REFERENCE 1 (bases 1 to 370)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 370)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..370  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="8681"  
/host="Miniopterus pusillus"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>370  
/gene="RdRp"  
CDS <1..>370  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88133"  
/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKSL  
QRSLYDNCYRTSTVDPAFVDT"

#### ORIGIN

1 atgtgataga gcattgccta atatgatccg tatgatatcc gccatgattt tgggttctaa  
61 gcatgagaat tgtgtacta actctgaccg ttattataga ctatgcaacg agttggctca  
121 agtgctaacc gaggtgtct attctaattg cggttttac ctaaaccag gtggtacgac  
181 atcgggtgat gcaacgacgg cttatgcaaa ttactgttt aatatcttc aagcagtcag  
241 tgtaacatt aatcgattt tgggcgtaa tagcaatact tgcaataact tgacagtaa  
301 aagttgcag cgctcttgt atgacaattg ttatcgact agtactgtgg accctgcctt  
361 tgtagacaca

//  
LOCUS MN312514 284 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat alphacoronavirus isolate 8717 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312514

VERSION MN312514

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 284)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 284)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..284

/organism="Bat alphacoronavirus"

/mol\_type="genomic RNA"

/isolate="8717"

/host="Myotis sp."

/db\_xref="taxon:2419667"

/country="China"

gene <1..>284

/gene="RdRp"

CDS <1..>284

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88134"

/translation="CDRALPNMLRMISAMILGSKHVTCNASDRYYRLCNELAQVLTE  
VIYSNGGFYVKPGGTTSGDASTAYANSVFNIFQSVSANVNRLLSVDSTVT"

ORIGIN

1 tgtgatagag ctttgctaa tatgcttaga atgattctg ctatgatact tggctctaaa

61 catgttacat gctgtaatgc tagtgataga tattacagac tatgtaacga acttgctcaa

121 gtgtaacag aagttatna ttctaattgt ggattttatg ttaaccagg tggtaaccaca

181 tctggtgat catccactgc ttatgctaac tctgtctta atatattca gtctgtaagt

241 gctaattgta atagattgct aagtgtgat agtaaacactg taac

//

LOCUS MN312515 368 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate 8777 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312515

VERSION MN312515

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 368)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 368)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..368  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="8777"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:693998"  
/country="China"  
gene <1..>368  
/gene="RdRp"  
CDS <1..>368  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88135"  
/translation="CDRAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNE  
VVHSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKL  
QRSIYDNCYRSSAVDDNVVT"

ORIGIN

1 tgtgatagag ctatgcctag tatgatacgt atgcttgctg ctatggttct tggatcaaag  
61 catgttcatc gctgtacaga cagtgatagg tttacagac ttccaatga actgcacaa  
121 gttctaatg aagttgtgca ttctaatggc gggttttatg taaaccagg tggcaccaca  
181 tcaggcgatg ctacaactgc gtatgcaaat tctgtcttca acatctttca ggcagttagc  
241 tctaatatta ataggcttct ttctgttgat agtaatgtgt gtaacaatct gtatgtcaag  
301 aagcttcagc gtctatctca tgacaattgt tatagatcta gtgctgttga tgacaatgtt  
361 gttacaga

//

LOCUS MN312516 368 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate 8798 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312516

VERSION MN312516

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 368)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 368)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..368

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="8798"

/host="Rhinolophus pusillus"

/db\_xref="taxon:693998"

/country="China"

gene <1..>368

/gene="RdRp"

CDS <1..>368

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88136"

/translation="CDRAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLANELAQVLNE

VVHNSGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNVNRLLSVDSNVCSNLYVKKL

QRDIYDNCYRSSAVDDGVYG"

ORIGIN

1 aatgtgatag agctatgcct agtatgatac gtatgttggc agctatggtt ctggctcta  
61 agcatgtaac ttgtgcaca gatagtata ggttttacag actagctaat gagttggcac  
121 aagttcttaa tgaagtgtg cattctaag gcggtttta tgttaacct ggtggtacta  
181 ctctgtgga tgcaacaact gcgatgcca attcagttt taatatttc caggctgtta  
241 gctctaagt taataggctt ttgtctgctg atagtaatgt ctgtagtaac ctatatgtca  
301 aaaagctgca gcgtgatata tatgacaatt gttatagata tagtgcagtt gatgatggtg  
361 tgtacgga

//

LOCUS MN312517 393 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU6 isolate 8867 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312517

VERSION MN312517

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; unclassified

Alphacoronavirus.

REFERENCE 1 (bases 1 to 393)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 393)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..393  
/organism="Bat coronavirus HKU6"  
/mol\_type="genomic RNA"  
/isolate="8867"  
/host="Vespertilio sinensis"  
/db\_xref="taxon:393045"  
/country="China"  
gene <1..>393  
/gene="RdRp"  
CDS <1..>393  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88137"  
/translation="RALPNMIRMISAMILGSKHVTCCTASDRFYRLCNELAQVLTEVI  
YSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQR  
KLYDCCYRSSSVDASFVDEYFGYLRKHFS"

ORIGIN

1 tagagcatta cctaataatga ttagaatgat ttccgcgatg attttgggtt ctaagcacgt  
61 cacgtgctgt actgctagt acaggtttta tagactctgt aatgagttgg cccaagtttt  
121 aacagaggtt atctattcta atggtgggtt ctacctaaa cctgggtgta ccacttctgg  
181 tgatgctact actgcatacg ccaattctgt cttaacatt ttcaggcag ttagtgctaa  
241 tgcaacagg ttgcttggtg ttgatagcaa cacatgcaac aatcttgaag tcaagcaatt  
301 acagcgtgaa ctttatgatt gctgctacag atcatctagt gttgatgcta gttttgtgga  
361 tgagtatttt ggctatctac gtaagcattt ttc

//

LOCUS MN312518 360 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU6 isolate 8939 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312518

VERSION MN312518

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers



source 1..360  
/organism="Bat coronavirus HKU6"  
/mol\_type="genomic RNA"  
/isolate="8939"  
/host="Vespertilio sinensis"  
/db\_xref="taxon:393045"  
/country="China"  
gene <1..>360  
/gene="RdRp"  
CDS <1..>360  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88138"  
/translation="LPNMIRMISAMILGSKHVTCCTASDRFYRLCNELAQVLTEVIYS  
NGGFYLPGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQRKL  
YDCCYRSSSVDASFVDE"

#### ORIGIN

1 attacctaat atgattagaa tgattccgc tatgatttg ggttctaagc acgtcacgtg  
61 ctgtactgct agtgacaggt tttatagact ctgtaatgag ttggccaag tttaacaga  
121 gggtatctat tctaattggt gtttctacct taaacctggt ggtaccactt ctggtgatgc  
181 tactactgca tacgccaatt ctgtcttaa cattttcag gcagttagtg ctaatgcaa  
241 caggttgctt ggtgttgata gcaacacatg caacaatctt gaagtaagc aattacagcg  
301 taagcttat gattgctgct acagatcadc tagtgttgat gccagtttg tggatgagta

//

LOCUS MN312519 359 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU6 isolate 8948 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312519

VERSION MN312519

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 359)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 359)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

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#### ORIGIN

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LOCUS MN312520 360 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 9130 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312520

VERSION MN312520

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

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biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..360  
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/db\_xref="taxon:393045"  
/country="China"  
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/gene="RdRp"  
CDS <1..>360

/gene="RdRp"  
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ORIGIN

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LOCUS MN312521 360 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 9132 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312521

VERSION MN312521

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..360

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CDS <1..>360

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

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/translation="LPNMIRMISAMILGSKHVTCCTASDRFYRLSNELAQVLTEVIYS

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YDCCYRSSNVDASFVDE"

ORIGIN

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301 taagctttat gattgctgct acaggctatc taatgttgat gccagtttcg tagatgagta

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LOCUS MN312522 387 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU6 isolate 9134 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312522

VERSION MN312522

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 387)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 387)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..387

/organism="Bat coronavirus HKU6"

/mol\_type="genomic RNA"

/isolate="9134"

/host="Myotis ricketti"

/db\_xref="taxon:393045"

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/gene="RdRp"

CDS <1..>387

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/protein\_id="QGA88142"

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ORIGIN

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361 ttttggttat ctacgtaagc attttc

//

LOCUS MN312523 387 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 9137-1 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312523

VERSION MN312523

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 387)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 387)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..387

/organism="Bat coronavirus HKU6"  
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/country="China"

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CDS <1..>387

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ORIGIN

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361 ttttggttat ctacgtaagc atttttc  
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LOCUS MN312524 387 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 9137-2 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.  
ACCESSION MN312524  
VERSION MN312524  
KEYWORDS .  
SOURCE Bat coronavirus HKU6  
ORGANISM Bat coronavirus HKU6  
Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.  
REFERENCE 1 (bases 1 to 387)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 387)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
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361 ttttggttat ctacgtaagc atttttc  
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LOCUS MN312525 360 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 9145 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.  
ACCESSION MN312525  
VERSION MN312525  
KEYWORDS .  
SOURCE Bat coronavirus HKU6  
ORGANISM Bat coronavirus HKU6  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.  
REFERENCE 1 (bases 1 to 360)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 360)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
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/isolate="9145"  
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#### ORIGIN

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LOCUS MN312526 360 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 9146 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312526  
VERSION MN312526  
KEYWORDS .  
SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..360

/organism="Bat coronavirus HKU6"

/mol\_type="genomic RNA"

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/host="Myotis ricketti"

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/country="China"

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ORIGIN

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LOCUS MN312527 335 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU6 isolate 9151 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312527

VERSION MN312527

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 335)



AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 335)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..335

/organism="Bat coronavirus HKU6"

/mol\_type="genomic RNA"

/isolate="9151"

/host="Myotis ricketti"

/db\_xref="taxon:393045"

/country="China"

gene <1..>335

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CDS <1..>335

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/product="RNA-dependent RNA polymerase"

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ORIGIN

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LOCUS MN312528 338 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU6 isolate 9154 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312528

VERSION MN312528

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; unclassified

Alphacoronavirus.

REFERENCE 1 (bases 1 to 338)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 338)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..338

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/isolate="9154"

/host="Myotis ricketti"

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CDS <1..>338

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ORIGIN

1 attacctaat atgattagaa tgattccgc tatgatttg ggttctaagc acgttacgtg  
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121 gggtatctat tctaattggt gtttctacct taaacctggt ggtaccactt ctggtgatgc  
181 cactactgca tacgecaatt ctgtcttaa cattttcag gcagttagt ctaatgcaa  
241 caggttgctt ggtgttgata gcaacacatg caacaatctt gaagtaagc aattacagcg  
301 taagctttat gattgctgct acagatcatc tagtggtg

//

LOCUS MN312529 360 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU6 isolate 9156 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312529

VERSION MN312529

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; unclassified

Alphacoronavirus.

REFERENCE 1 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..360  
/organism="Bat coronavirus HKU6"  
/mol\_type="genomic RNA"  
/isolate="9156"  
/host="unknown"  
/db\_xref="taxon:393045"  
/country="China"  
gene <1..>360  
/gene="RdRp"  
CDS <1..>360  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88149"  
/translation="LPNMIRMISAMILGSKHVTCCTASDRFYRLCNELAQVLTEVIYS  
NGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQRKL  
YDCCYRSSSVSDASVDE"

ORIGIN

1 attacctaat atgattagaa tgattccgc tatgatcttg ggttctaagc acgtcacatg  
61 ctgtactgct agtgacaggt tttatagact ctgtaatgag ttggccaag tcttaacaga  
121 gggtatctat tctaattggt gtttctacct taaacctggt ggtaccacgt ctggtgatgc  
181 tactactgca tacccaatt ctgtctttaa cattttcag gcagttagtg ctaatgtcaa  
241 caggttgctt ggtgttgata gcaacacatg caacaatctt gaagtaagc aattacagcg  
301 taagctttat gattgctgct acagatcatc tagtgttgat gctagtttg tggatgagta

//

LOCUS MN312530 360 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 9161 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312530

VERSION MN312530

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..360  
/organism="Bat coronavirus HKU6"  
/mol\_type="genomic RNA"

/isolate="9161"  
/host="Myotis chinensis"  
/db\_xref="taxon:393045"  
/country="China"  
gene <1..>360  
/gene="RdRp"  
CDS <1..>360  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88150"  
/translation="LPNMIRMISAMILGSKHVTCCTASDRFYRLCNELAQVLTEVIYS  
NGGFYLPGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQRKL  
YDCCYRSSVVDASFVDE"

#### ORIGIN

1 attaccta atgattagaa tgattccgc tatgatttg ggttctaagc acgtcacgtg  
61 ctgtactgct agtgacaggt tttatagact ctgtaatgag ttggccaag tttaacaga  
121 gggtatctat tctaattggg gtttctacct taaacctggg ggtaccactt ctggtgatgc  
181 tactactgca tacgccaatt ctgtctttaa cattttcag gcagttagtg ctaatgcaa  
241 caggttgctt ggtgttgata gcaacacatg caacaatctt gaagtcaagc aattacagcg  
301 taagcttat gattgctgct acagatcatc tagtgttgat gctagtttg tggatgagta

//

LOCUS MN312531 360 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU6 isolate 9164 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312531

VERSION MN312531

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..360  
/organism="Bat coronavirus HKU6"  
/mol\_type="genomic RNA"  
/isolate="9164"  
/host="Myotis ricketti"  
/db\_xref="taxon:393045"  
/country="China"

gene <1..>360

CDS /gene="RdRp"  
<1..>360  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88151"  
/translation="LPNMIRMISAMILGSKHVTCCTASDRFYRLCNELAQVLTEVIYS  
NGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQRKL  
YDCCYRSSSVDASFVDE"

ORIGIN

1 attacctaat atgattagaa tgattccgc tatgatttg ggttctaagc acgtcacgtg  
61 ctgtactgct agtgacaggt tttatagact ctgtaatgag ttggccaag tttaacaga  
121 gggtatctat tctaattggt gtttctacct taaacctggt ggtaccactt ctggtgatgc  
181 tactactgca tacgccaatt ctgtctttaa cattttcag gcagttagtg ctaatgtaa  
241 caggttgctt ggtgttgata gcaacacatg caacaatctt gaagtaagc aattacagcg  
301 taagctttat gattgctgct acagatcadc tagtgttgat gctagtttg tggatgagta

//

LOCUS MN312532 366 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU6 isolate 9167 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312532

VERSION MN312532

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 366)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 366)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..366  
/organism="Bat coronavirus HKU6"  
/mol\_type="genomic RNA"  
/isolate="9167"  
/host="Myotis chinensis"  
/db\_xref="taxon:393045"  
/country="China"

gene <1..>366  
/gene="RdRp"

CDS <1..>366  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88152"  
/translation="RALPNMIRMISAMILGSKHVTCCTASDRFYRLSNELAQVLTEVI  
YSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQR  
KLYDCCYRSSNVDASFVDE"

ORIGIN

1 tagggcattg cctaataatga ttagaatgat ttccgctatg atttggggtt ctaagcatgt  
61 cacttggtgt actgctagtg acaggtttta tagactctct aatgagttgg cccaagttct  
121 aacggaggtt atctattcta atgggtggtt ttacctcaaa cctggaggta caacctctgg  
181 tgatgccact actgcctatg ccaattctgt gtttaattatt ttcaggctg ttagtgccaa  
241 tgtaaatagg ttgcttggtg ttgatagcaa cacatgcaac aacctagagg tcaagcaatt  
301 acagcgtaag ctttatgatt gctgctacag gtcattctaat gttgatgcca gtttcgtaga  
361 tgagta

//

LOCUS MN312533 366 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 9170 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312533

VERSION MN312533

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 366)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 366)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..366

/organism="Bat coronavirus HKU6"

/mol\_type="genomic RNA"

/isolate="9170"

/host="Myotis chinensis"

/db\_xref="taxon:393045"

/country="China"

gene <1..>366

/gene="RdRp"

CDS <1..>366

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88153"

/translation="RALPNMIRMISAMILGSKHVTCCTASDRFYRLSNELAQVLTEVI

YSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQR

KLYDCCYRSSNVDASFVDE"

## ORIGIN

1 tagggcatta cctaataatga ttagaatgat ttcgctatg atttggggtt ctaagcatgt  
61 cacttggtgt actgctagt acaggtttta cagactctcc aatgagctgg cccaagtctt  
121 aacagaggtt atctattcta atgggtggtt ttacctcaaa cctgggggta ccacttctgg  
181 tgatgccact actgcctatg ccaattctgt gttaaatatt ttcaggctg ttagtgccaa  
241 tgcaatagg ttgcttggtg ttgatagcaa cacatgcaac aacctagaag tcaagcaatt  
301 acagcgaag ctttatgatt gctgctacag gtcactaat gttgatgcca gtttcgtaga  
361 ttagta

//

LOCUS MN312534 360 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU6 isolate 9172 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312534

VERSION MN312534

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..360

/organism="Bat coronavirus HKU6"

/mol\_type="genomic RNA"

/isolate="9172"

/host="Myotis ricketti"

/db\_xref="taxon:393045"

/country="China"

gene <1..>360

/gene="RdRp"

CDS <1..>360

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88154"

/translation="LPNMIRMISAMILGSKHVTCCTASDRFYRLSNELAQVLTEVVYS

NGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQRKL

YDCCYRSSDVDASFVDE"

## ORIGIN

1 attgcctaat atgattagaa tgattccgc tatgatttg ggttctaagc atgtcacttg  
61 ttgtactgct agtgacaggt tttatagact ctccaacgag ttggcccaag ttctaacaga  
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181 tactactgca tatgccaatt ctgtgtttaa tatttttcag gctgtagtg ctaatgcaa  
241 caggttgctt ggtgttgata gcaacacatg caataaccta gaagtcaagc aattacaacg  
301 taagctttat gattgctgct acaggtcatc tgatgttgat gctagtttg tggatgagta

//

LOCUS MN312535 417 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 9175 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312535

VERSION MN312535

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 417)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 417)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..417

/organism="Bat coronavirus HKU6"

/mol\_type="genomic RNA"

/isolate="9175"

/host="Myotis ricketti"

/db\_xref="taxon:393045"

/country="China"

gene <1..>417

/gene="RdRp"

CDS <1..>417

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88155"

/translation="RALPNMIRMISAMILGSKHVTCCTASDRFYRLSNELAQVLTEVI

YSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQR

KLYDCCYRSSNVDFVDEYFGYLRKHFSMMIHLMM"

ORIGIN

1 tagggcatta ctaaatatga ttagaatgat ttccgctatg attttgggtt ctaagcatgt  
61 cacttggtt actgctagtg acaggttita cagactctcc aatgagctgg cccaagtttt  
121 aacagaggtt atctattcta atggtgggtt ttacctcaaa cctgggggga ccacttctgg  
181 tgatgccact actgcttatg ccaattccgt gttaaatatt ttcaggctg ttagtgccaa  
241 tgcaatagg ttgcttggtg ttgatagcaa cacatgcaac aacctagaag tcaagcaatt  
301 acagcgaag ctttatgatt gctgctacag gtcgctaat gttgatgcca gtttcgtaga  
361 tgagtatttt ggttatctac gtaagcattt ttctatgatg atcatctga tgatgga

//



LOCUS MN312536 403 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate 9176 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312536

VERSION MN312536

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 403)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 403)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..403

/organism="Bat coronavirus HKU6"  
/mol\_type="genomic RNA"  
/isolate="9176"  
/host="Myotis ricketti"  
/db\_xref="taxon:393045"  
/country="China"

gene <1..>403

/gene="RdRp"

CDS <1..>403

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88156"

/translation="RALPNMIRMISAMILGSKHVTCCTASDRFYRLSNELAQVLTEVI

YSNGGFYLPKPGGTTSGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQR

KLYDCCYRSSNVDASFVDEYFGYLRKHFSMMI"

ORIGIN

1 tagggcattg cctaataatga ttagaatgat ttctgctatg atttggggtt ctaagcatgt  
61 cacttggtgt actgctagt acaggttta cagactctcc aatgagctgg cccaagtctt  
121 aacagaggtt atctattcta atgggtggtt ttacctcaa cctggaggtt ccaactctgg  
181 tgatgccacc actgcatatg ccaattctgt gtttaattatt ttcaggctg ttagtgccaa  
241 tgcaatagg ttgcttggtg ttgatagcaa cacatgcaac aatctagaag tcaagcaatt  
301 acagcgtaag ctttatgatt gctgctacag gtcattctaat gttgatgcca gttttgtaga  
361 tgagtatttt gggtatctac gtaagcattt ttctatgatg att

//

LOCUS MN312537 358 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate 9397 RNA-dependent RNA polymerase (RdRp)  
gene, partial cds.

ACCESSION MN312537

VERSION MN312537

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 358)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 358)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..358

/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="9397"  
/host="Miniopterus schreibersii"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>358

/gene="RdRp"

CDS <1..>358

/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88157"  
/translation="LPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEVVYS  
NGGFYLPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKELQRSL  
YDNCYRTSTVDPAFVDT"

ORIGIN

1 tttgcctaat atgattcgta tgatatccgc catgattttg ggttctaagc atgaaaattg  
61 ttgtactaac tctgaccgtt attatagatt atgtaacgag ttggcacaag tgctaactga  
121 agtggctctat tctaacggcg gtttttattt aaaaccaggt ggtacgacat caggtgatgc  
181 aacgacagct tatgccaatt ctgtttttaa catcttcaa gcagttagt ctaacattaa  
241 tcgcattttg ggcgttaata gcaatactg caataactg acagttaaag agtgcaacg  
301 ctcatgtat gacaattgt atcgactag tactgttgac cctgccttg tagacacg

//

LOCUS MN312538 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 512 isolate CZ02 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312538

VERSION MN312538

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronaviridae;

Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat coronavirus 512"

/mol\_type="genomic RNA"

/isolate="CZ02"

/host="Scotophilus kuhlii"

/db\_xref="taxon:2664421"

/country="China"

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YSNGGFYVKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNNIEVKQLQR

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ORIGIN

1 agagctttgc ccaacatgat tagaatggtt tctgcaatga tacttggttc taagcacggt  
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LOCUS MN312539 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 512 isolate CZ18-1 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312539

VERSION MN312539

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 402)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
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ORIGIN

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241 gtaaacgct tgttgagtgt tgatagtaac acatagaagt taagcaattg  
301 cagcgttaagt tgtatgattg ttgtatcga tcatcaagtg tggatcaaag tttgttgaa  
361 gactactttg gttaccttcg taaacacttt tctatgatga tt

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LOCUS MN312540 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 512 isolate CZ18-2 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312540

VERSION MN312540

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402  
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ORIGIN

1 agagcttgc ccaacatgat tagaatgatt tctgcaatga tacttggttc taagcacgtt  
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LOCUS MN312541 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 512 isolate CZ20 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312541

VERSION MN312541

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat coronavirus 512"  
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/country="China"  
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#### ORIGIN

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241 gtaaccgct tgttgagtgt tgatagtaat acatgaaca acatagaagt taagcaattg  
301 cagcgttaagt tgtatgattg ttgtatcga tcatcaagtg tggatcaaag tttgttgaa  
361 gactactttg gttaccttcg taagcacttt tctatgatga tt

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LOCUS MN312542 408 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 512 isolate CZ29 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.  
ACCESSION MN312542  
VERSION MN312542  
KEYWORDS .  
SOURCE Bat coronavirus 512  
ORGANISM Bat coronavirus 512  
Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.  
REFERENCE 1 (bases 1 to 408)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 408)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..408  
/organism="Bat coronavirus 512"  
/mol\_type="genomic RNA"  
/isolate="CZ29"  
/host="Scotophilus kuhlii"  
/db\_xref="taxon:2664421"

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CDS <1..>408  
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ORIGIN

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121 agttttaaca gaaatggttt attcaaacgg tgcttttat gtcaaacctg gtggtactac  
181 atctggtgat gctacaacag cttatgcca ttcagttttt aacatatttc aggcaactag  
241 tgcaaatgtt aaccgctgt tgagtgtga tagtaataca tgtaacaaca tagaagttaa  
301 gcaattgcag cgtaagtgtg atgattgtg ttatcgatca tcaagtgtgg atcaaagttt  
361 tgttgaagag tactttggtt accttcgtaa acacttttct atgatgat

//

LOCUS MN312543 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate HD131577 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312543

VERSION MN312543

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402  
/organism="Bat coronavirus HKU6"  
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/db\_xref="taxon:393045"  
/country="China"

gene <1..>402  
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CDS <1..>402

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ORIGIN

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241 gtcaacaggt tgcttgggtg ttagatgaac acatgcaaca atctcaagt caagcaatta  
301 cagcgtaacg ttatgattg ctgctacaga tcatctagtg ttgatgctag tttgtggat  
361 gagtattttg gctatctacg taggcatttt tctatgatga tt

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LOCUS MN312544 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU6 isolate HD131580 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312544

VERSION MN312544

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

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/translation="RALPNMIRMISAMILGSKHVTCCTASDRFYRLSNELAQVLTEVI  
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ORIGIN

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241 gtcaataggt tgcttgagtg ttagatgaac acatgcaaca accttgaagt caagcaatta  
301 cagcgaagc ttatgattg ctgctacagg tcatctaatg ttgatgctag tttgtggat  
361 gagtatttg gttatctacg taagcatttt tctatgatga tt

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LOCUS MN312545 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus HKU6 isolate HD131581 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312545

VERSION MN312545

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

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/country="China"

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ORIGIN

1 agagcattac ctaatatgat tagaatgatt tccgctatga tcttgggttc taagcacgctc  
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241 gtcaacaggt tgcttgggtg ttagatgaac acatgcaaca atcttgaagt caagcaatta  
301 cagcgaagc ttatgattg ctgctacaga tcatctagtg ttgatgctag tttgtggat  
361 gagtatttg gctatctacg taagcatttt tctatgatga tt

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LOCUS MN312546 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU6 isolate HD131583 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312546

VERSION MN312546

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

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gene <1..>402  
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ORIGIN

1 agagcattac ctaacatgat tagaatgatt tccgctatga tcttgggttc taaacatgctc  
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241 gtcaataggt tgctcgggtg tgatagcaac acatgtaaca acctagaagt caagcaatta  
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361 gagtattttg gttatctacg taagcatttt tctatgatga tt

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LOCUS MN312547 328 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate HD131585 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312547

VERSION MN312547

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 328)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 328)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..328

/organism="Bat coronavirus 1"  
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/isolate="HD131585"  
/host="Miniopterus schreibersii"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>328

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CDS <1..>328

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/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88167"

/translation="RALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEVV  
YSNGGFYLKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNLTVKELQR  
SLYDNCY"

ORIGIN

1 agagctttgc ctaatatgat tcgtatgata tccgcatga ttttgggttc taagcatgaa  
61 aattgttgta ctaactctga ccgtattat agattatgta acgagttggc acaagtgcta  
121 actgaagtgg tctattctaa cggcggtttt tatttaaac caggtggtac gacatcaggt  
181 gatgcaacga cagcttatgc caattctgtt ttaatatct tcaagcagt tagtgctaac  
241 attaatcgca ttttgggcgt taatagcaat acttgcaata acttgacagt taaagagttg  
301 caacgetcat tgtatgacaa ttgttate

//

LOCUS MN312548 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate HD131586 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312548

VERSION MN312548

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronaviridae; Orthocoronavirinae; Alphacoronavirus; unclassified Alphacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J., Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J., Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat coronavirus 1"

/mol\_type="genomic RNA"

/isolate="HD131586"

/host="Miniopterus pusillus"

/db\_xref="taxon:2042696"

/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88168"

/translation="RALPNMIRMISAMILGSKHGNCCTNSDRYYRLCNELAQVLTEVV

YSNGGFYLKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKSLQR

SLYDNCYRTSTVDPAFVDTFYGYLRKHFSMMI"

ORIGIN

1 agagcattgc ctaatgat ccgatgata tccgcatga tttgggttc taaacatggg

61 aattgtgta ctaactctga ccgtattat agactatgta acgagttagc tcaagtgcta

121 accgaggtgg tctattctaa tggcggtttt tatctaaaac caggtggtac gacatcgggt

181 gatgcaacga cgcttatgc caattcagtg ttaatatct tcaagcagt tagtgctaac

241 attaatgca tttgggcgt taatagcaat acttgcaata acttgacagt taaaagttg

301 cagcgtctt tgatgacaa ttgtatcgc actagtactg tggaccctgc cttttagac

361 acatttatg gtacttacg caaacatttc tctatgatga tt

//

LOCUS MN312549 359 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU6 isolate HD131592 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312549

VERSION MN312549

KEYWORDS .

SOURCE Bat coronavirus HKU6

ORGANISM Bat coronavirus HKU6

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 359)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 359)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..359

/organism="Bat coronavirus HKU6"  
/mol\_type="genomic RNA"  
/isolate="HD131592"  
/host="Myotis ricketti"  
/db\_xref="taxon:393045"  
/country="China"

gene <1..>359

/gene="RdRp"

CDS <1..>359

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88169"

/translation="LGSKHVTCCTASDRFYRLSNELAQVLTEVIYSNNGGFYLPKGGTT  
SGDATTAYANSVFNIFQAVSANVNRLLGVDSNTCNNLEVKQLQRKLYDCCYRSSNVDA  
SFVDEYFGYLRLKHFSSMM"

ORIGIN

1 ttgggttct aagcatgtca ctgtgtgac tgctagtgc aggtttata gactctctaa  
61 tgagttagcc caagtttaa cagaggttat ctattctaat ggtggtttt acctcaaacc  
121 tggaggtaca actctggtg atgccactac tgctatgcc aattctgtgt ttaatattt  
181 tcaggctgct agtccaatg tcaatagggt gcttgaggt gatagcaaca catgcaaca  
241 cctgaagtc aagcaattac agcgaagct ttatgattgc tgctacaggt catctaatgt  
301 tgatgctagt ttgtggatg agtatttgg ttacctacgt aagcatttt ctatgatga

//

LOCUS MN312550 411 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate HK140626 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312550

VERSION MN312550

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified

Alphacoronavirus.

REFERENCE 1 (bases 1 to 411)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 411)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..411  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="HK140626"  
/host="Miniopterus schreibersii"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>411  
/gene="RdRp"  
CDS <1..>411  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88170"  
/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKDL  
QRSLYDNCYRTSTVDPAFVDTFYGYLRKHFSSMMI"

ORIGIN

1 aatgtgatag agcattgcct aatgatgac gtatgatc cgccatgatt ttgggtcca  
61 agcatgagaa ttgtgtacc aactctgac gttattatag actatgcaat gagtagctc  
121 aagtgtaac tgagggtgc tattctaag gtggtttta cttaaacca ggtggtacga  
181 catcgggtga tgcaacgaca gttatgcca actctgtgt taacatctt caagcagtc  
241 gtgtaacat taatcgata ttggcggtta atagcaacac ttgtaatac tgacagtta  
301 aagattgca gcgctcgtg tatgataatt gttatgcac tagcactga gacctgct  
361 ttgtagacac atttatggt tacttacgca aacattctc tatgatgatt c

//

LOCUS MN312551 411 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate HK140640 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312551

VERSION MN312551

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 411)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 411)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..411  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="HK140640"  
/host="Miniopterus schreibersii"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>411  
/gene="RdRp"  
CDS <1..>411  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88171"  
/translation="CDRALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTE  
VVYSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKDL  
QRSLYDNCYRTSTVDPAFVDTFYGYLRKHFSMMI"

ORIGIN

1 aatgtgatag agcattgcct aatgatgac gttatgatc cgccatgatt ttgggtcca  
61 agcatgagaa ttgtgtacc aactctgac gttattatag actatgcaat gagttagctc  
121 aagtgctaac tgagggtgct tattctaag gtggtttta cttaaaccac ggtggtacga  
181 catcgggtga tgcaacgaca gttatgcca actctgtgt taacatcttc caagcagta  
241 gtgctaacat taatcgata ttggcgctta atagcaacac ttgtaataac tgacagta  
301 aagattgca gcgctcgtg tatgataatt gttatcgac tagcactgta gacctgcct  
361 ttgtagacac atttatggt tacttagca aacattctc tatgatgatt c

//

LOCUS MN312552 337 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate HK140703 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312552

VERSION MN312552

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 337)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 337)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.

TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..337  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="HK140703"  
/host="Scotophilus kuhlii"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>337  
/gene="RdRp"  
CDS <1..>337  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88172"  
/translation="CCSSSDRYRRLCNELAQVLTEMVYSNNGGFYVKPGGTTSGDATTA  
YANSVFNIFQATSANVNRLLSVDSNTCNNIEVKQLQRKLYDCCYRSSSVDDQSFVEEYF  
GYLRKHFSMM"

#### ORIGIN

1 ctgctgtagt tctagcgata ggtactacag attgtgtaac gaactagcac aagtttaac  
61 agaatgggt tattcgaacg gtggcttta tgcaaacct ggtggtacta catctggtga  
121 tgetacaaca gcttatgcca attcagtttt taacatattt caggcaacta gtgcaaatgt  
181 taaccgcttg ttgagtgtg atagtaatac atgtaacaac atagaagtta agcaattgca  
241 gcgtaagtgt tatgattgtt gttatcgatc atcaagtgtg gatcaaatgt ttgttgaaga  
301 gtactttggt taccttcgca aacactttc tatgatg

//

LOCUS MN312553 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 512 isolate HK140706 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312553

VERSION MN312553

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne, A., Hu, B., Zhu, G., Zhang, L., Olival, K.J.,  
Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne, A., Hu, B., Zhu, G., Zhang, L., Olival, K.J.,  
Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers



source 1..402  
/organism="Bat coronavirus 512"  
/mol\_type="genomic RNA"  
/isolate="HK140706"  
/host="Scotophilus kuhlii"  
/db\_xref="taxon:2664421"  
/country="China"  
gene <1..>402  
/gene="RdRp"  
CDS <1..>402  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88173"  
/translation="RALPNMIRMISAMILGSKHVNCCSSSDRYRRLCNELAQVLTEMV  
YSNGGFYVKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNNIEVKQLQR  
KLYDCCYRSSSVDDQSFVEEYFGYLRKHFSMMI"

#### ORIGIN

1 agagctttgc ccaacatgat tagaatgatt tctgcaatga tacttggttc taagcacggt  
61 aactgctgta gttctagcga taggtactac agattgtgta acgaactagc acaagtttta  
121 acagaaatgg ttattcgaa cgggtggcttt tatgtcaaac ctggtggtac tacatctggt  
181 gatgctacaa cagcttatgc caattcagtt ttaacatat ttcaggcaac tagtgcaaat  
241 gtaaccgct tgttgagtgt tgatagtaat acatgaaca acatagaagt taagcaattg  
301 cagcgttaagt tgtatgattg ttgtatcga tcatcaagtg tggatcaaag tttgttgaa  
361 gagtactttg gttatcttcg taaactttt tctatgatga tt

//

LOCUS MN312554 406 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 512 isolate HK140714 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312554

VERSION MN312554

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..406  
/organism="Bat coronavirus 512"  
/mol\_type="genomic RNA"  
/isolate="HK140714"  
/host="Scotophilus kuhlii"

/db\_xref="taxon:2664421"  
/country="China"  
gene <1..>406  
/gene="RdRp"  
CDS <1..>406  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88174"  
/translation="CDRALPNMIRMISAMILGSKHVNCCSSSDRYRLCNELAQVLTE  
MVYSNGGFYVKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNIEVKQL  
QRKLYDCCYRSSSVDQSFVEEYFGYLRKHFSMM"

#### ORIGIN

1 tgtgatagag cttgcccaa catgattaga atgatttctg caatgatact tggttctaag  
61 cacgttaact gctgtagttc tagcgatagg tactacagat tgtgtaacga actagcacia  
121 gttttaacag aaatggttta tcaaacggg ggctttatg tcaaacctgg tggactaca  
181 tctggtgatg ctacaacagc ttatgccaat tcagtttta acatattca ggcaactagt  
241 gcaaatgta accgctgtt gagtggtgat agtaatacat gtaacaacat agaagttaag  
301 caattgcagc gtaagtgta tgattgtgt tatcgatcat caagtgtgga tcaaagttt  
361 gttgaagagt accttggtta ccttcgtaaa cacttttcta tgatga

//

LOCUS MN312555 395 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 512 isolate HK140715 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312555

VERSION MN312555

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 395)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 395)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..395  
/organism="Bat coronavirus 512"  
/mol\_type="genomic RNA"  
/isolate="HK140715"  
/host="Scotophilus kuhlii"  
/db\_xref="taxon:2664421"  
/country="China"  
gene <1..>395  
/gene="RdRp"  
CDS <1..>395

/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88175"  
/translation="ALPNMIRMISAMILGSKHVNCCSSSDRYRLCNELAQVLTEMVY  
SNGGFYVKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNNIEVKQLQRK  
LYDCCYRSSSVDQSFVEEYFGYLRKHFSM"

ORIGIN

1 agctttgcc aacatgatta gaatgattc tgcaatgata cttggttcta agcatgtaa  
61 ctgctgtagt tctagcgata ggtactacag attgtgtaac gaactagcac aagtttaac  
121 agaaatggtt tattcgaacg gtggctttta tgtcaaacct ggtggtacta catctggtga  
181 tgetacaaca gcttatgcca attcagtttt taacatattt caggcaacta gtgcaaagt  
241 taaccgcttg ttgagtgtg atagtaatac atgtaacaac atagaagta agcaattgca  
301 gcgtaagttg tatgattgtt gttatcgatc atcaagtgtg gatcaaagtt ttgttgaaga  
361 gtactttggt taccttcgca aacactttc tatga

//

LOCUS MN312556 406 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 512 isolate HK140716 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312556

VERSION MN312556

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..406

/organism="Bat coronavirus 512"

/mol\_type="genomic RNA"

/isolate="HK140716"

/host="Scotophilus kuhlii"

/db\_xref="taxon:2664421"

/country="China"

gene <1..>406

/gene="RdRp"

CDS <1..>406

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88176"

/translation="CDRALPNMIRMISAMILGSKHVNCCSSSDRYRLCNELAQVLTE

MVYSNGGFYVKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNNIEVKQL  
QRKLYDCCYRSSSVQSFVEEYFGYLRKHFSMM"

ORIGIN

1 tgtgatagag cttgcccac catgattaga atgatttctg caatgatact tgggtctaag  
61 cacgtaact gctgtagttc tagcgatagg tactacagat tgtgtaacga actagcacia  
121 gtttaacag aaatggttta ttraacggg ggctttatg tcaaacctgg tggactaca  
181 tctggatg ctacaacagc ttatgcaat tcagtttta acatattca ggcaactagt  
241 gcaaatgta accgcttgtt gagtgttgat agtaatacat gtaacaacat agaagttaag  
301 caattgcagc gtaagttgta tgattgtgt tategatcat caagtgtgga tcaaagttt  
361 gttgaagagt actttggtta ccttcgcaa cacttttcta tgatga

//

LOCUS MN312557 408 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 512 isolate HK140717 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312557

VERSION MN312557

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..408

/organism="Bat coronavirus 512"

/mol\_type="genomic RNA"

/isolate="HK140717"

/host="Scotophilus kuhlii"

/db\_xref="taxon:2664421"

/country="China"

gene <1..>408

/gene="RdRp"

CDS <1..>408

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88177"

/translation="CDRALPNMIRMISAMILGSKHVNCCSSDRYYRLCNELAQVLTE

MVYSNGGFYVKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNNIEVKQL

QRKLYDCCYRSSSVQSFVEEYFGYLRKHFSMMI"

ORIGIN

1 tgtgatagag cttgcccac catgattaga atgatttctg caatgatact tgggtctaag  
61 cacgtaact gctgtagttc tagcgatagg tactacagat tgtgtaacga actagcacia

121 gttttaacag aaatggttta ttgcaacggt ggctttatg tcaaacctgg tggactaca  
181 tctggtgatg ctacaacagc ttatgccaat tcagtttta acatattca ggcaactagt  
241 gcaaagtta accgctgtt gagtgtgat agtaatacat gyaacaacat agaagttaag  
301 caattgcagc gtaagtgta tgattgttg tatcgatcat caagtgtgga tcaaagttt  
361 gttgaagagt actttggtta ccttcgtaaa cacttttcta tgatgatt

//

LOCUS MN312558 393 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 512 isolate HK140720 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312558

VERSION MN312558

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 393)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 393)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..393

/organism="Bat coronavirus 512"

/mol\_type="genomic RNA"

/isolate="HK140720"

/host="Scotophilus kuhlii"

/db\_xref="taxon:2664421"

/country="China"

gene <1..>393

/gene="RdRp"

CDS <1..>393

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88178"

/translation="LPNMIRMISAMILGSKHVNCCSSDRYYRLCNELAQVLTEMVYS

NGGFYVKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNIEVKQLQRKL

YDCCYRSSVDQSFVEEYFGYLKHFMSM"

ORIGIN

1 cttgcccacatgattaga atgattctg caatgatact tggttctaag catgttaact  
61 gctgtagtct tagcgatagg tactacagat tgtgtaacga actagcacia gtttaacag  
121 aaatggttta ttgcaacggt ggctttatg tcaaacctgg tggactaca tctggtgatg  
181 ctacaacagc ttatgccaat tcagtttta acatattca ggcaactagt gcaaagtta  
241 accgctgtt gagtgtgat agtaatacat gtaacaacat agaagttaag caattgcagc  
301 gtaagtgta tgattgttg tatcgatcat caagtgtgga tcaaagttt gttgaagagt  
361 actttggtta ccttcgcaaa cacttttcta tga

//  
LOCUS MN312559 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate LS140735 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312559

VERSION MN312559

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat coronavirus 1"

/mol\_type="genomic RNA"

/isolate="LS140735"

/host="Miniopterus schreibersii"

/db\_xref="taxon:2042696"

/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88179"

/translation="RALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEVV

YSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKNLQR

SLYDNCYRTSSVDPAFVDTFYGYLRKHFSMMI"

ORIGIN

1 agagcaactgc ctaatatgat tcgtagata tccgcatga ttttgggttc taagcatgaa  
61 aattgttga ctaactcaga tcgtattat agactatga acgagttgce tcaggtgcta  
121 actgaagtag tctattctaa cggcggttt tatttaaac caggtggtac cacatcgggt  
181 gatgaacga cagcttatgc caattctgtg ttaatatct tcaagcagt tagtgctaac  
241 attaactgaa tcttggcgt taatagcaat acttgcata atttaactgt taaaaattg  
301 caacgtcat tctatgataa ttgtatcgc actagttctg ttgacctgc cttttagac  
361 acatttatg gttacctacg caaacattt tctatgatga tt

//  
LOCUS MN312560 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate LS140741 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312560

VERSION MN312560

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="LS140741"  
/host="Miniopterus schreibersii"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88180"

/translation="RALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEVV  
YSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNLLTVKDLQR  
SLYDNCYRTSTVDPAFVDTFYGYLRKHFSMMI"

ORIGIN

1 agagcattgc ctaatgat tcgatgata tccgcatga tttgggttc caagcatgag  
61 aattgttga ccaactga tcgtattat agactatgca atgagttage tcaagtgcta  
121 actgaggtgg tctattctaa tgggtgttt tactaaaac caggtggtac gacatcgggt  
181 gatgcaacga cagcttatgc caactctgtg ttaacatct tcaagcagt cagtgctaac  
241 attaatcgca tattggcgt taatagcaac acttgaata acttgacagt taaagattg  
301 cagcgtcgt tgtatgataa ttgtatcgc actagcactg tagaccctgc cttttagac  
361 acatttatg gttacttac caaacattc tctatgatga tt

//

LOCUS MN312561 359 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate ML140002 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312561

VERSION MN312561

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 359)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 359)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..359

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="ML140002"

/host="Rhinolophus affinis"

/db\_xref="taxon:693998"

/country="China"

gene <1..>359

/gene="RdRp"

CDS <1..>359

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88181"

/translation="CDRAMPSMIRMLAAMVLGSKHVTCCTDSDFYRLSNELAQVLNE

VVHNSGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKL

QRSIYDNCYRSSAVDDT"

ORIGIN

1 gtgtgatagg gctatgccta gtatgatacg tatgcttgc gccatggtc ttggatctaa

61 gcacgttaca tgtgttacag acagtgatag gttttacaga ctttctaacg aacttgcgca

121 agttcttaat gaggtgtgac attctaattg aggtttttat gtaaacctg gtggcactac

181 atcagtgat gctacaactg cttatgcaaa ttctgtttt aacatcttc aggcagttag

241 ctctaacatt aacaggttc tttctgttga tagtaattg tgtaacaact tgtatgtaa

301 aaagcttcag cgctctatct atgacaattg ttataggtct agtgctgttg atgacactg

//

LOCUS MN312562 355 bp RNA linear VRL 07-NOV-2019

DEFINITION Miniopterus bat coronavirus HKU8 isolate ML140028 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312562

VERSION MN312562

KEYWORDS .

SOURCE Miniopterus bat coronavirus HKU8

ORGANISM Miniopterus bat coronavirus HKU8

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Minunacovirus.

REFERENCE 1 (bases 1 to 355)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.



TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 355)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers  
source 1..355  
/organism="Miniopterus bat coronavirus HKU8"  
/mol\_type="genomic RNA"  
/isolate="ML140028"  
/host="Miniopterus sp."  
/db\_xref="taxon:694001"  
/country="China"  
gene <1..>355  
/gene="RdRp"  
CDS <1..>355  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88182"  
/translation="RALPNMIRMISAMILGSKHVNCCNSDRYYRLCNELAQVLTEVV  
YSNGGFYMKPGGTTSGDATTAYANSVFNIFQAVSANINRILGINSNTCNNLTVKSLQR  
MLYDNCYRSSAVDPGF"

#### ORIGIN

1 agagcattgc ctaacatgat tcgtatgatt tctgctatga tttggggttc taagcatggt  
61 aattgttga ccaattcaga tcgtattat agactttgta atgaacttgc acaagttctt  
121 actgaggtgg tctattctaa cgggggttcc tatatgaagc ctgggtgttac tacttctggt  
181 gatgccacta ctgctatgc taattctgtt tcaacatat tccagctgt tagtgctaat  
241 attaatagga tttgggtat taatagtaat acctgtaata atcttactgt taagtcactt  
301 cagcgcacgc tctatgacaa ttgtataga agttctgccg ttgatcctgg ttttg

//

LOCUS MN312563 328 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate ML140029 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.  
ACCESSION MN312563  
VERSION MN312563  
KEYWORDS .

SOURCE Bat coronavirus 1  
ORGANISM Bat coronavirus 1  
Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 328)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 328)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..328  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="ML140029"  
/host="Miniopterus sp."  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>328  
/gene="RdRp"  
CDS <1..>328  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88183"  
/translation="SDRYRYRLCNELAQVLTEVVYSNGGFYLPKGGTTS GDATTAYANS  
VFNIFQAVSANINRILGVNSNTCNNLTVKDLQRSLYDNCYRTSTVDPAFVDTFYGYLR  
KHFSMM"

ORIGIN

1 actctgatcg ttattataga ctatgcaatg agttagctca agtgctaact gaggtagtct  
61 attctaattg tggttttat taaaaccag gtggtacgac atcgggtgat gcaacgacgg  
121 cttatgcaa ctctgtgttt aatatcttc aagcagtcag tgtaacatt aatcgcatat  
181 tgggcgtaa tagcaatact tgaataact tgacagtaa agatttgcag cgctcgttgt  
241 atgacaattg ttatgcgact agtactgtag accctgcctt tgtagacacg tttatggt  
301 acttacgcaa acatttctct atgatgat

//

LOCUS MN312564 355 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat alphacoronavirus isolate ML140030 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312564

VERSION MN312564

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 355)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 355)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..355  
/organism="Bat alphacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="ML140030"  
/host="Miniopterus schreibersii"  
/db\_xref="taxon:2419667"  
/country="China"  
gene <1..>355  
/gene="RdRp"  
CDS <1..>355  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88184"  
/translation="ALPNMIRMISAMILGSKHVNCCTASDRYYRLCNELAQVLTEVVH  
SNGGFYMKPGGTTSGDATTAYANSVFNIFQAVSANINRILGINSNTCNNLTVKSIQRM  
LYDNCYRTSAVDSGLS"

#### ORIGIN

1 gagcacttcc taatatgata cgtatgatat cagccatgat tcttggttcc aaacatgta  
61 actgttgtag gcctctgat aggtattatc gcctttgtaa tgagttggct caggttctta  
121 ctgaagtcgt ccattcaaat ggtggttct atatgaaacc tggcgggtact acttctggtg  
181 atgccacaac agcttatgct aattctgtgt ttaacatttt ccaagctggt agtgccaata  
241 ttaatcgtat attgggcatt aatagcaata catgtaataa ccttactggt aagtctatac  
301 agcgtatggt gtacgacaat tgttatcgta cttctgctgt tgactctggc ttgtc

//

LOCUS MN312565 375 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat alphacoronavirus isolate ML140031 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312565

VERSION MN312565

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 375)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 375)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..375  
/organism="Bat alphacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="ML140031"  
/host="Miniopterus schreibersii"

/db\_xref="taxon:2419667"  
/country="China"  
gene <1..>375  
/gene="RdRp"  
CDS <1..>375  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88185"  
/translation="LPNMIRMISAMILGSKHVCCTASDRYYRLCNELAQVLTEVVHS  
NGGFYMKPGGTTSGDATTAYANSVFNIFQAVSANINRILGINSNTCNNLTVKSIQRML  
YDNCYRTSAVDSGFVDTFYGYL"

#### ORIGIN

1 cacttctaa tatgatacgt atgatatcag ccatgattct tggttctaag catgttaatt  
61 gttgtactgc ctctgatagg tactaccgcc tttgtaatga gttggctcag gttcttactg  
121 aagtcgtcca tcaaatggt ggtttttaca tgaacctgg tgggtactact tctggtgatg  
181 ctacaacagc ttatgccaat tctgtgttta acattttcca agctgttagt gccaatatca  
241 atcgatatatt gggcattaat agcaacacat gtaacaatct tactgttaag tctatacagc  
301 gtatgttgta cgacaattgt tategtactt cegctgttga ctctggcttt gtcgacacct  
361 tttatggtta tctta

//

LOCUS MN312566 387 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate ML140033-1 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312566

VERSION MN312566

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 387)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 387)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..387  
/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="ML140033-1"  
/host="Miniopterus fuscus"  
/db\_xref="taxon:2042696"  
/country="China"  
gene <1..>387  
/gene="RdRp"

CDS <1..>387  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88186"  
/translation="LPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEVVYS  
NGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCDNLTVKGLQRSL  
YDNCYRTSTVDPAFVDTFYGYLRKHFS"

ORIGIN

1 attgcctaat atgattcgta tgatatccgc catgattttg ggtccaagc atgagaattg  
61 ttgtaccaac tctgatcgtt attatagact atgtaatgag ttagctcaag tgctaactga  
121 ggtagtctat tctaattggtg gtttttattt aaaaccaggt ggtacgacat cgggtgatgc  
181 aacgacggct tatgccaact ctgtgtttaa cattttcaa gcagtcagtg ctaacattaa  
241 tcgcatactg ggcgtaata gcaatacttg tgataactta acagttaaag gtttcagcgc  
301 ctcgttgat gataattgtt atcgactag cactgtggac cctgccttg tagacacctt  
361 ttatggttac ttacgaaac atttctc

//

LOCUS MN312567 387 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat alphacoronavirus isolate ML140033-2 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312567

VERSION MN312567

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 387)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 387)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..387  
/organism="Bat alphacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="ML140033-2"  
/host="Miniopterus fuscus"  
/db\_xref="taxon:2419667"  
/country="China"

gene <1..>387  
/gene="RdRp"

CDS <1..>387  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88187"  
/translation="LPNMIRMISAMILGSKHVCCTASDRYYRLCNELAQVLTEVVHS  
NGGFYMKPGGTTSGDATTAYANSVFNIFQAVSANINRILGINSNTCNNLTVKSIQRML  
YDNCYRTSAVDSGFVDTFYGYLRKLF"

ORIGIN

1 acttcctaat atgatacgtg tgatacagc catgattctt ggttctaagc atgttaattg  
61 ttgtactgcc tctgataggt actaccgect ttgtaatgag ttggtcagg ttcttactga  
121 agtcgtccat tcaaatggtg gttttacat gaaacctggt ggtactactt ctggtgatgc  
181 tacaacagct tatccaatt ctgtgttaa cattttcaa gctgtagtg ccaatatcaa  
241 tcgtatattg ggcattaata gcaacacatg taacaatctt actgttaagt ctatacagcg  
301 tatgtgtac gacaattgtt atcgtacttc cgctgttgac tctggtttg tcgacacct  
361 ttatggttat cttaggaagc tctttc

//

LOCUS MN312568 352 bp RNA linear VRL 07-NOV-2019  
DEFINITION Miniopterus bat coronavirus HKU8 isolate ML140094 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312568

VERSION MN312568

KEYWORDS .

SOURCE Miniopterus bat coronavirus HKU8

ORGANISM Miniopterus bat coronavirus HKU8

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Minunacovirus.

REFERENCE 1 (bases 1 to 352)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 352)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..352

/organism="Miniopterus bat coronavirus HKU8"  
/mol\_type="genomic RNA"  
/isolate="ML140094"  
/host="Miniopterus fuscus"  
/db\_xref="taxon:694001"  
/country="China"

gene <1..>352  
/gene="RdRp"

CDS <1..>352

/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88188"  
/translation="KCDRALPNMIRMISAMILGSKHVCCTNSDRYYRLCNELAQVLT  
EVVYSNGGFYMKPGGTTSGDATTAYANSVFNIFQAVSANINRILGINSNTCNNLTVKS  
LQRMLYDNCYRSSAV"

ORIGIN

1 aaatgtgac gtgcattgcc taacatgatt cgtatgattt ctgctatgat tttgggttct  
61 aagcatgta actgtgttac caattcagat cgttattata gactttgtaa tgaacttgca  
121 caagttctta ctgagggtgt ctattctaac ggggggttct atatgaagcc tgggtgtact  
181 acttctggtg atgccactac tgcctatget aattctgttt tcaacatatt ccaggctgtt  
241 agtgctaata ttaataggat tttgggtatt aatagtaata cctgtaataa tcttactgtt  
301 aagtcactc agcgcagct ctatgacaat tgttatagaa gttctgctgt tg

//

LOCUS MN312569 409 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat alphacoronavirus isolate NL140456 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312569

VERSION MN312569

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..409

/organism="Bat alphacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="NL140456"  
/host="Hypsugo sp."  
/db\_xref="taxon:2419667"  
/country="China"

gene <1..>409

/gene="RdRp"

CDS <1..>409

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88189"

/translation="CDRALPNMIRMISAMILGSKHTNCCTPSDRYYRLCNELAQVLTE  
VVYSNGGFYFKPGGTTSGDATTAYANSVFNIFQAVSANVNRLLGIDSNTCNNLNKQL  
QRRLYDNCYRSSGVDDEFVNDYYCYLQKHFSMMI"

ORIGIN

1 tgtgatagag cattgcctaa tatgatacgc atgatctcag caatgatctt gggttccaaa  
61 cacaccaact gctgtacacc ttcggataga tattaccgct tgtgcaatga gtagctcag  
121 gtgettacag aggttgtcta tcaaatggt ggcttttact ttaagcctgg tgggtactact  
181 tctggtgatg ctacaactgc ttatgcaaac tccgtctta atatcttcca ggctgttagc  
241 gctaagtta acagactgtt ggggtatagat tccaacactt gtacaatct taatgcaaaa

301 caattgcagc gtcgattgta tgacaattgt tatagaagtt ctggtgtgga tgatgagttt  
361 gttaacgatt atactgta ttacagaaa catttttcta tgatgattc

//

LOCUS MN312570 409 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat alphacoronavirus isolate NL140459 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312570

VERSION MN312570

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..409

/organism="Bat alphacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="NL140459"  
/host="Hypsugo sp."  
/db\_xref="taxon:2419667"  
/country="China"

gene <1..>409

/gene="RdRp"

CDS <1..>409

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88190"

/translation="CDRALPNMIRMISAMILGSKHTNCCTPSDRYYRLCNELAQVLTE  
VVYSNGGFYFKPGGTTSGDATTAYANSVFNIFQAVSANVNRLLGIDSNTCNNLNKQL  
QRRLYDNCYRSSGVDDEFVNDYYCYLQKHFSMMI"

ORIGIN

1 tgtgacagag cattgcctaa tatgatacgc atgatctcag caatgatctt gggttccaaa  
61 cacaccaact gctgtacacc ttcggataga tattaccgct tgtgcaatga gttagctcag  
121 gtgcttacag aggtgtgcta ttcaaatggt ggcttttact ttaagcctgg tggctactact  
181 tctggtgatg ctacaactgc ttatgcaaac tccgtcttta atatcttcca ggctgtttagc  
241 gctaagtta acagactggt gggatatagat tccaacactt gtaacaatct taatgtcaaa  
301 caattgcagc gtcgattgta tgacaattgt tatagaagtt ctggtgtgga tgatgagttt  
361 gttaacgatt atactgta ttacagaaa catttttcta tgatgattc

//

LOCUS MN312571 321 bp RNA linear VRL 07-NOV-2019



DEFINITION Bat alphacoronavirus isolate NL140460 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312571

VERSION MN312571

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae; Orthocoronavirinae; Alphacoronavirus; unclassified

Alphacoronavirus.

REFERENCE 1 (bases 1 to 321)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J., Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 321)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J., Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..321

/organism="Bat alphacoronavirus"

/mol\_type="genomic RNA"

/isolate="NL140460"

/host="Hypsugo sp."

/db\_xref="taxon:2419667"

/country="China"

gene <1..>321

/gene="RdRp"

CDS <1..>321

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88191"

/translation="IRMISAMILGSKHTNCCTPSDRYYRLCNELAQVLTEVVYSNGGF  
YFKPGGTTSGDATTAYANSVFNIFQAVSANVNRLLGIDSNTCNLNVKQLQRRLYDNC  
YRSS"

ORIGIN

1 tgatagcat gatctcagca atgatcttgg gttccaaca caccaactgc tgtacacctt  
61 cggatagata ttaccgcttg tgcgatgagt tagctcaggt gttacagag gttgtctatt  
121 caaatgggtgg cttttacttt aagcctggtg gtactacttc tggatgatgct acaactgctt  
181 atgcaaactc cgtctttaat atctccagg ctgttagcgc taatgtaac agactgttgg  
241 gtagatatt caacactgt aacaatctta atgtcaaaca attgcagcgt cgattgtatg  
301 acaattgta tagaagtctt g

//

LOCUS MN312572 418 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat alphacoronavirus isolate NL140461 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312572

VERSION MN312572

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 418)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 418)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..418

/organism="Bat alphacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="NL140461"  
/host="Hypsugo sp."  
/db\_xref="taxon:2419667"  
/country="China"

gene <1..>418

/gene="RdRp"

CDS <1..>418

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88192"

/translation="DRALPNMIRMISAMILGSKHTNCCTPSDRYYRLCNELAQVLTEV  
VYSNGGFYFKPGGTTSGDATTAYANSVFNIFQAVSANVNRLLGIDSNTCNLNKVLQ  
RRLYDNCYRSSGVDDEFVNDYYCYLQKHFSMMIQLM"

ORIGIN

1 gtcacagagc atgccta atgatacga tgatcagc aatgatctg ggtcaaac  
61 acaccaactg ttgtacacct tctgatagat attaccgctt gtcgaatgag ttagctcagg  
121 tgcttacaga ggtgtctat tcaatggag gttttactt taagcctggt ggtactactt  
181 ctggtgatgc tactactgct tatgcaaact cagtctttaa tatcttcag gctgttagcg  
241 ctaatgtaa cagactgttg ggtatagatt ccaactctg taacaatctt aatgtcaaac  
301 aattgcagcg tcgattgtac gacaattgt atagaagtc tgggtggat gacgagttg  
361 ttaatgatta ttactgttat ttacagaaac attttctat gatgattcaa ctgatgat

//

LOCUS MN312573 408 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat alphacoronavirus isolate NL140463 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312573

VERSION MN312573

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified

Alphacoronavirus.

REFERENCE 1 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..408

/organism="Bat alphacoronavirus"

/mol\_type="genomic RNA"

/isolate="NL140463"

/host="Hypsugo sp."

/db\_xref="taxon:2419667"

/country="China"

gene <1..>408

/gene="RdRp"

CDS <1..>408

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88193"

/translation="CDRALPNMIRMISAMILGSKHTNCCTPSDRYYRLCNELAQVLTE

VVYSNGGFYFKPGGTTSGDATTAYANSVFNIFQAVSANVNRLLGIDSNTCNNLNKQL

QRRLYDNCYRSSGVDDEFVNDYYCYLQKHFSMMI"

ORIGIN

1 tgtgacagag cattgcctaa tatgatacgc atgatctcag caatgatctt gggttccaaa  
61 cacaccaact gctgtacacc ttcggataga tattaccgct tgtgcaatga gttagctcag  
121 gtgcttacag aggtgtgcta tcaaatggt ggcttttact ttaagcctgg tggctactact  
181 tetggtgatg ctacaactgc ttatgcaaac tccgtcttta atatcttcca ggctgtagc  
241 gctaagtta acagactggt gggtagatg tccaacactt gtaacaatct taatgcaaa  
301 caattgcagc gtcgattgta tgacaattgt tatagaagtt ctggtgtgga tgatgagttt  
361 gtaacgatt attactgta ttacagaaa catttttcta tgatgatt

//

LOCUS MN312574 409 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat alphacoronavirus isolate NL140464 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312574

VERSION MN312574

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; unclassified

Alphacoronavirus.

REFERENCE 1 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..409

/organism="Bat alphacoronavirus"

/mol\_type="genomic RNA"

/isolate="NL140464"

/host="Hypsugo sp."

/db\_xref="taxon:2419667"

/country="China"

gene <1..>409

/gene="RdRp"

CDS <1..>409

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88194"

/translation="CDRALPNMIRMISAMILGSKHTNCCTPSDRYYRLCNELAQVLTE  
VVYSNGGFYFKPGGTTSGDATTAYANSVFNIFQAVSANVNRLLGIDSNTCNNLNKQL  
QRRLYDNCYRSSGVDDEFVNDYYCYLQKHFSMMI"

ORIGIN

1 tgtgacagag cattgectaa tatgatacgc atgatctcag caatgatctt ggggtccaaa  
61 cacaccaact gctgtacacc ttcggataga tattaccgct tgtgcaatga gtagctcag  
121 gtgcttacag aggtgtgcta ttcaatggt ggcctttact ttaagcctgg tggtagctact  
181 tetggtgatg ctacaactgc ttatgcaaac tccgtcttta atatcttcca ggctgttagc  
241 gctaagtta acagactggt gggatatagat tccaacactt gtaacaatct taatgtcaaa  
301 caattgcagc gtcgattgta tgacaattgt tatagaagtt ctggtgtgga tgatgagttt  
361 gtaacgatt attactgta ttacagaaa catttttcta tgatgattc

//

LOCUS MN312575 419 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat alphacoronavirus isolate NL140480 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312575

VERSION MN312575

KEYWORDS .

SOURCE Bat alphacoronavirus

ORGANISM Bat alphacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 419)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 419)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..419

/organism="Bat alphacoronavirus"

/mol\_type="genomic RNA"

/isolate="NL140480"

/host="Hypsugo sp."

/db\_xref="taxon:2419667"

/country="China"

gene <1..>419

/gene="RdRp"

CDS <1..>419

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88195"

/translation="CDRALPNMIRMISAMILGSKHTNCCTPSDRYYRLCNELAQVLTE  
VVYSNGGFYFKPGGTTSGDATTAYANSVFNIFQAVSANVNRLLGIDSNTCNNLNKQL  
QRRLYDNCYRSSGVDDEFVNDYYCYLQKHFSMMIQLM"

ORIGIN

1 tgtgacagag cattgcctaa tatgatacgc atgatctcag caatgatctt ggggtcaaaa  
61 cacaccaact gttgtacacc tctgataga tattaccgct tgtgcaatga gttagctcag  
121 gtgcttacag aggtgtgcta tcaaatgga ggttttact ttaagcctgg tggtagctact  
181 tetggtgatg ctactactgc ttatgcaaac tcagtcttta atatctcca ggcgtgttagc  
241 gctaagtta acagactggt gggtatagat tccaatactt gtaacaatct taatgtcaaa  
301 caattgcagc gtcgattgta cgacaattgt tatagaagtt ctggtgtgga tgacgagttt  
361 gtaaatgatt attactgtta ttacagaaa catttttcta tgatgattca actgatgat

//

LOCUS MN312576 407 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate QZ140904 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312576

VERSION MN312576

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae; Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 407)

AUTHORS Latinne, A., Hu, B., Zhu, G., Zhang, L., Olival, K. J.,

Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 407)

AUTHORS Latinne, A., Hu, B., Zhu, G., Zhang, L., Olival, K. J.,

Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
 source            1..407  
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                   /mol\_type="genomic RNA"  
                   /isolate="QZ140904"  
                   /host="Rhinolophus affinis"  
                   /db\_xref="taxon:693998"  
                   /country="China"  
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                   /gene="RdRp"  
 CDS                <1..>407  
                   /gene="RdRp"  
                   /codon\_start=1  
                   /product="RNA-dependent RNA polymerase"  
                   /protein\_id="QGA88196"  
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 VVHNSGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKL  
 QRSIYDNCYRSSAVDDNVVTDIFYNYLKKHFSMM"

ORIGIN

1 tgtgatagag ctatgcctag tatgattcgc atgcttgctg ccatggttct tggctcgaag  
 61 catgttacat gttgtacaga tagtgacagg tttacagac tctccaatga actgcacaa  
 121 gttctaatg aagttgtgca ctctaacgga gggtttatg taaaacctgg cgggtaccaca  
 181 tcaggtgacg ctacaacagc ttatgcaaac tctgtgttta acattttca ggcagttgac  
 241 tetaacatca ataggcttct ttctgtgat agtaatgtgt gcaacaactt atatgtcaaa  
 301 aagctccagc gctctatcta tgacaattgt tatagatcta gcgctgtcga tgacaatgtt  
 361 gtcacagatt tctataatta ccttaagaag catttcteta tgatgat

//

LOCUS    MN312577            404 bp    RNA    linear    VRL 07-NOV-2019  
 DEFINITION    Rhinolophus bat coronavirus HKU2 isolate QZ140908 RNA-dependent RNA  
                   polymerase (RdRp) gene, partial cds.

ACCESSION    MN312577

VERSION      MN312577

KEYWORDS     .

SOURCE      Rhinolophus bat coronavirus HKU2

ORGANISM    Rhinolophus bat coronavirus HKU2

              Viruses; Riboviria; Nidovirales; Coronaviridae;  
               Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE    1 (bases 1 to 404)

AUTHORS     Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
               Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE        Origin and cross-species transmission of bat coronaviruses in China

JOURNAL     Unpublished

REFERENCE    2 (bases 1 to 404)

AUTHORS     Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
               Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE        Direct Submission

JOURNAL     Submitted (13-AUG-2019) Key laboratory of special pathogens and  
               biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
               Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

source            1..404  
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                   /mol\_type="genomic RNA"  
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/host="Rhinolophus affinis"  
/db\_xref="taxon:693998"  
/country="China"  
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/gene="RdRp"  
CDS <1..>404  
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/codon\_start=1  
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#### ORIGIN

1 tgtgatagag ctatgcctag tatgattcgc atgcttgctg ccatggttct tggctcgaag  
61 catgttacat gttgtacaga tagtgacagg tttacagac tctccaatga acttgacaaa  
121 gtcttaaatg aagttgtgca ctctaacgga gggtttatg taaaacctgg cgggtaccaca  
181 tcaggtgacg ctacaacagc ttatgcaaac tctgtgttta acattttca ggcagttagc  
241 tctaacatca ataggtctct ttctgttgat agtaatgtgt gcaacaactt atatgtcaaa  
301 aagctccagc gctctateta tgacaattgt tatagatceta gcgctgtcga tgacaatgtt  
361 gtcacagatt tctataatta ccttaagaag catttcteta tgat

//

LOCUS MN312578 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate QZ140909 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312578

VERSION MN312578

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="QZ140909"  
/host="Rhinolophus affinis"  
/db\_xref="taxon:693998"  
/country="China"  
gene <1..>402  
/gene="RdRp"

CDS <1..>402  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
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/translation="RAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEVV  
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SIYDNCYRSSAVDDNVVTFYNYLKKHFSMMI"

ORIGIN

1 agagctatgc ctagtatgat tcgcatgctt gctgccatgg ttcttgctc aaagcatgtt  
61 acatgttga cagatagtga caggttttac agactctcca atgaacttgc acaagttctt  
121 aatgaagttg tgcactctaa tggagggttt tatgtaaaac cgggtgttac tacatcaggt  
181 gacgctacaa cagcttatgc aaactctgtg ttaacattt tcaggcagt tagctctaac  
241 attaataggc ttctttctgt tgatagtaat ggtgcaaca acttatatgt caaaaagctc  
301 cagcgtctta tctatgacaa ttgtataga tctagcgtg ttgatgacaa tgttgcaca  
361 gattctata attatcttaa gaagcatttc tctatgatga tt

//

LOCUS MN312579 408 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate QZ140920 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312579

VERSION MN312579

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..408  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="QZ140920"  
/host="Rhinolophus affinis"  
/db\_xref="taxon:693998"  
/country="China"

gene <1..>408  
/gene="RdRp"

CDS <1..>408  
/gene="RdRp"  
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/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88199"



/translation="CDRAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNE  
VVHNSGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKL  
QRSIYDNCYRSSAVDDNVVTDYFNYLKKHFSMMI"

ORIGIN

1 tgtgatagag ctatgcctag tatgattcgc atgcttgctg ccatggttct tggctcaaag  
61 catgttcat gttgtacaga tagtgacagg tttacagac tctcaatga actgcacaa  
121 gttctaatg aagttgtgca ctctaattga gggttttatg taaaaccgg tggactaca  
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241 tctaacatta atagcttct tctgttgat agtaatgtg gcaacaactt atatgtcaa  
301 aagctccagc gctctatcta tgacaattgt tatagatcta gcgctgttga tgacaatgtt  
361 gtcacagatt tctataatta tcttaagaag catttcteta tgatgatt

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LOCUS MN312580 405 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate QZ140932 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312580

VERSION MN312580

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 405)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 405)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..405

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="QZ140932"

/host="Rhinolophus affinis"

/db\_xref="taxon:693998"

/country="China"

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/gene="RdRp"

CDS <1..>405

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88200"

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VHNSGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQ  
RSIYDNCYRSSAVDDNVVTDYFNYLKKHFSMM"

ORIGIN

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61 atgttacatg ttgtacagat agtgacaggt ttacagact ctccaatgaa cttgcgcagg  
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181 caggtgacgc tacaacagct tatgcaaac ctgtgtttaa cattttcag gcagttagct  
241 ctaataataa taggcttctt tctgttgata gtaatgtgtg caacaactta tatgtcaaaa  
301 agctccageg ctctatctat gacaattgt atagatctag cgctgtcgat gacaatgttg  
361 ttacagatt ctataattac ctaagaagc atttctctat gatga

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LOCUS MN312581 406 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus HKU10 isolate QZ140937 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312581

VERSION MN312581

KEYWORDS .

SOURCE Bat coronavirus HKU10

ORGANISM Bat coronavirus HKU10

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Decacovirus.

REFERENCE 1 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..406

/organism="Bat coronavirus HKU10"

/mol\_type="genomic RNA"

/isolate="QZ140937"

/host="Hipposideros pomona"

/db\_xref="taxon:1244203"

/country="China"

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/gene="RdRp"

CDS <1..>406

/gene="RdRp"

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VVYSNGGFYFKPGGTTSGDASTAYANSVFNIFQAVSSNINRLLTIDSNVCNNVSVKTL

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ORIGIN

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121 gttttaacag aggttggtga ttctaatggt ggctttatt tcaaaccagg tggactact  
181 tccggtgacg catctacage ctatgctaac tcagttctta atattttca agcagtcagt  
241 ttaacatta acaggttgct gactatcgc agcaatggtt gtaataatgt tagtgtcaaa  
301 actctgcaaa gagaattgta tgacaactgt tatagatctt caagtgtcga cgaacaattc

361 atagataagt attattgcta tttagcgaag cacttttcta tgatga

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LOCUS MN312582 406 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate QZ140941 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312582

VERSION MN312582

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..406

/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="QZ140941"  
/host="Rhinolophus affinis"  
/db\_xref="taxon:693998"  
/country="China"

gene <1..>406  
/gene="RdRp"

CDS <1..>406  
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/protein\_id="QGA88202"  
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VVHSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKL  
QRSIYDNCYRSSAVDDNVVTDYFNYLKKHFSMM"

ORIGIN

1 tgtgatagag ctatgcctag tatgattcgc atgcttgctg ccatggttct tggctcgaag  
61 catgttacat gttgtacaga tagtgacagg tttagcagac tctccaatga acttgcgcag  
121 gtcttaacg aagtttgca cttaacgga gggtttatg taaacccgg cggtagcacg  
181 tcaggtgacg ctacaacagc ttatgcaaac tctgtgttta acattttca ggcagttagc  
241 tetaacatca ataggcttct ttctgtcgat agtaatgtgt gcaacaactt atatgtcaaa  
301 aagctccagc gctctatcta tgacaattgt tatagatcta gcgctgttga tgacaatggt  
361 gtcacagatt tctataatta ccttaagaag catttcteta tgatga

//

LOCUS MN312583 406 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate QZ140953 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312583

VERSION MN312583

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..406

/organism="Rhinolophus bat coronavirus HKU2"

/mol\_type="genomic RNA"

/isolate="QZ140953"

/host="Rhinolophus affinis"

/db\_xref="taxon:693998"

/country="China"

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/gene="RdRp"

CDS <1..>406

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/codon\_start=1

/product="RNA-dependent RNA polymerase"

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/translation="CDRAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNE

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QRSIYDNCYRSSAVDDNVVTDYFNYLKKHFSMM"

ORIGIN

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61 catgttacat gttgtacaga tagtgacagg tttacagac tctccaatga actgcacaa

121 gttctaatg aagtgtgca ctctaattgga gggttttatg taaaaccgg tggctactaca

181 tcaggtgacg ctacaacagc ttatgcaaac tctgtgttta acattttca ggcagttagc

241 ttaacatta atagcttct tctgttgat agtaatgtg gcaacaactt atatgtcaa

301 aagctccagc gctctatcta tgacaattgt tatagatcta gcgctgttga tgacaatgtt

361 gtcacagatt tctataatta tcttaagaag catttctcta tgatga

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LOCUS MN312584 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 512 isolate QZ140986 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312584

VERSION MN312584

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat coronavirus 512"

/mol\_type="genomic RNA"

/isolate="QZ140986"

/host="Scotophilus kuhlii"

/db\_xref="taxon:2664421"

/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88204"

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YSNGGFYVKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNNIEVKQLQR

KLYDCCYRSSSVDQSFVEEYFGYLRKHFSMMI"

ORIGIN

1 agagctttgc ccaacatgat tagaatgatt tctgcaatga tacttggttc taagcacggt  
61 aactgctgta gttctagcga taggtactac agattgtgta acgaactagc acaagtttta  
121 acagaaatgg ttattcgaa cgggtgcttt tatgtcaaac ctggtggtac tacatctggt  
181 gatgctacaa cagcttatgc caattcagtt ttaacatat ttcaggcaac tagtgcaaat  
241 gtaaccgct tgttgagtgt tgatagtaat acatgaaca acatagaagt taagcaattg  
301 cagcgttaagt tgtatgattg ttgtatcga tcatcaagtg tggatcaaag tttgttgaa  
361 gagtactttg gttaccttcg caaacacttt tctatgatga tt

//

LOCUS MN312585 377 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 512 isolate QZ140993 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312585

VERSION MN312585

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 377)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 377)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..377  
/organism="Bat coronavirus 512"  
/mol\_type="genomic RNA"  
/isolate="QZ140993"  
/host="Scotophilus kuhlii"  
/db\_xref="taxon:2664421"  
/country="China"  
gene <1..>377  
/gene="RdRp"  
CDS <1..>377  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88205"  
/translation="ALPNMIRMISAMILGSKHVNCCSSSDRYRLCNELAQVLTEMVY  
SNGGFYVKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNNIEVKQLQRK  
LYDCCYRSSSVDQSFVEEYFGYL"

ORIGIN

1 agctttgccc aacatgatta gaatgattc tgcaatgata cttggttcta agcatgtaa  
61 ctgctgtagt tctagecaga ggtactacag attgtgtaac gaactagcac aagttttaa  
121 agaaatggtt tattegaacg gtggctttaa tgcacaacct ggtggtacta catctggtga  
181 tgetacaaca gcttatgcca attcagtttt taacatattt caggcaacta gtgcaaatgt  
241 taaccgcttg ttgagtgttg atagtaatac atgtaacaac atagaagta agcaattgca  
301 gcgtaagttg tatgattggt gttatcgatc atcaagttg gatcaaagt ttgttgaaga  
361 gtactttggt taccttc

//

LOCUS MN312586 406 bp RNA linear VRL 07-NOV-2019

DEFINITION Rhinolophus bat coronavirus HKU2 isolate SY141007 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312586

VERSION MN312586

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..406  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="SY141007"  
/host="Rhinolophus pusillus"  
/db\_xref="taxon:693998"  
/country="China"  
gene <1..>406  
/gene="RdRp"  
CDS <1..>406  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88206"  
/translation="CDRAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLANELAQVLNE  
VVHSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNVNRLLSVDSNVCSNLYVKKL  
QRDIYDNCYRSSAVDDGVVTDFFYNYLKKHFSMM"

ORIGIN

1 tgtgatagag ctatgcctag tatgatacgt atgttggcag ctatggttct tggctetaag  
61 catgtaactt gttgcacaga tagtgatagg tttacagac tagctaata gttggcacia  
121 gttctaatg aagttgtgca ttctaattgg ggctttatg taaacctgg tggctact  
181 tctggtgat caacaactgc gtatgccaac tcagtttta atatttcca ggctgttag  
241 tctaattgta ataggcttt gtctgtcgat agtaatgtct gtagtaacct atagttaa  
301 aagttgcagc gtgatatcta tgacaattgt tatagatcta gtgcagttga tgatggtg  
361 gttacggatt ttataacta tcttaaaaag cattttcta tgatga

//

LOCUS MN312587 401 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate SY141032 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312587

VERSION MN312587

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 401)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 401)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..401  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="SY141032"  
/host="Rhinolophus affinis"  
/db\_xref="taxon:693998"  
/country="China"  
gene <1..>401  
/gene="RdRp"  
CDS <1..>401  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88207"  
/translation="RAMPSMIRMLAAMVLGSKHVTCCTDSDRFYRLSNELAQVLNEVV  
HSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKLQR  
SIYDNCYRSSAVDDNVVTFYNYLKKHFSMM"

#### ORIGIN

1 atagagctat gcctagatg attgcatgc ttgctgcat ggttcttggc tcgaagcatg  
61 ttacatgttg tacagatagt gacaggtttt acagactctc caatgaactt ggcgaggttc  
121 ttaatgaagt tgtgactct aacggagggt ttatgtaaa acccgcgctg accacgtcag  
181 gtcagctac aacagcttat gcaaactctg tgttaacat tttcaggca gtagctcta  
241 ayattaatag gcttctttt gttgatagta atgtgtgcaa caacttatat gtcaaaaage  
301 tccagcgtc tatctatgac aattgttata gatctagcgc tgcgatgac aatgttgta  
361 cagattcta taattacctt aagaagcatt tctctatgat g

//

LOCUS MN312588 408 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rhinolophus bat coronavirus HKU2 isolate SY141049 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312588

VERSION MN312588

KEYWORDS .

SOURCE Rhinolophus bat coronavirus HKU2

ORGANISM Rhinolophus bat coronavirus HKU2

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; Rhinacovirus.

REFERENCE 1 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..408  
/organism="Rhinolophus bat coronavirus HKU2"  
/mol\_type="genomic RNA"  
/isolate="SY141049"  
/host="Rhinolophus affinis"



/db\_xref="taxon:693998"  
/country="China"  
gene <1..>408  
/gene="RdRp"  
CDS <1..>408  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88208"  
/translation="CDRAMPSMIRMLAAMVLGSKHVTCTDSDRFYRLSNELAQVLNE  
VVHSNGGFYVKPGGTTSGDATTAYANSVFNIFQAVSSNINRLLSVDSNVCNNLYVKKL  
QRSIYDNCYRSSAVDDNVVTDYFNYLKKHFSMMI"

#### ORIGIN

1 tgtgatagag ctatgcctag tatgattcgc atgcttgctg ccatggttct tggctcgaag  
61 catgttcatc gttgtacaga tagtgacagg tttacagac tctccaatga acttgccgag  
121 gttctaatg aagtgtgca ctctaacgga gggttttatg taaaaccggg cggtagccag  
181 tcaggtgacg ctacaacagc ttatgcaaac tctgtgttta acattttca ggcagttagc  
241 tctaataatta ataggcttct ttctgttgat agtaatgtgt gcaacaactt atatgtcaaa  
301 aagtcaccagc gctctatcta tgacaattgt tatagatcta gcgctgtcga tgacaatgtt  
361 gtcacagatt tctataatta ccttaagaag catttcteta tgatgatt

//

LOCUS MN312589 322 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 512 isolate SZ140292 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312589

VERSION MN312589

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;

Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 322)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 322)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..322

/organism="Bat coronavirus 512"

/mol\_type="genomic RNA"

/isolate="SZ140292"

/host="Scotophilus kuhlii"

/db\_xref="taxon:2664421"

/country="China"

gene <1..>322

/gene="RdRp"

CDS <1..>322

/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88209"  
/translation="RALPNMIRMISAMILGSKHVNCCNATDRYYRLCNELAQVLTEMV  
YSNGGFYIKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNNIEVKQLQR  
KLYDD"

ORIGIN

1 agagcattgc ccaacatgat tagaatgatt tctgctatga ttcttggttc caagcacgtc  
61 aactgctgta atgccactga tcggtattac aggctctgta atgagttggc acaggttctt  
121 acagaaatgg ttattccaa tgggtggttt tatattaac caggtggcac aacttctggt  
181 gatgcaacca cagcttatgc caattcagtt tcaacattt ttcaggcaac tagtgcta  
241 gtaacagat tgttgagtgt tgatagtaac acttgaaca acatagaggt taaacagta  
301 cagcgaagt tgtatgatga tt

//

LOCUS MN312590 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate SZ140296 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312590

VERSION MN312590

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="SZ140296"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88210"

/translation="RALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEVV"

CSNGGFYLKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKSLQR  
SLYDNCYRTSTVDPAFVDTFYGYLRKHFSMMI"

ORIGIN

1 agagcattgc ctaatatgat ccgatgata tccgcatga ttttgggttc taagcatgag  
61 aattgttga ctaactctga ccgtattat agactatgta acgagttggc tcaagtgcta  
121 actgaagtag tctgttctaa tggtggttt tacctaaaac caggtggtac gacatcgggt  
181 gatgcaacga cggettatgc caattcagtg ttaatatct tcaagcagt cagtgctaac  
241 attaatcgca ttttgggcgt taatagcaat acttgcaata acttgacagt taaaagttg  
301 cagegctctt tgatgacaa ttgtatcgc actagtactg tagaccctgc cttttagac  
361 acatttatg gttacttacg caaacatttc tctatgatga tt

//

LOCUS MN312591 353 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 1 isolate SZ140322 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312591

VERSION MN312591

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 353)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 353)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..353

/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="SZ140322"  
/host="Tylonycteris pachypus"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>353

/gene="RdRp"

CDS <1..>353

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88211"

/translation="RALPNMIRMISAMILGSKHENCCTNSDRYYRLCNELAQVLTEVV

YSNGGFYLKPGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKSLQR  
SLYDNCYRTSTVDPA"

ORIGIN

1 agagcattgc ctaatatgat ccgatgata tccgcatga ttttgggttc taagcatgag

61 aattgttgta ctaactctga ccgttattat agactatgta acgagttggc tcaagtgcta  
121 actgaagtag tctattctaa tgggtggttt tacctaaaac caggtggtac gacatcgggt  
181 gatgcaacga cggttatgc caattcagtg ttaatatct tcaagcagt cagtgctaac  
241 attaatcgca tttggggcgt taatagcaat acttgcaata acttgacagt taaaagtttg  
301 cagcgtctct tgtatgacaa ttgtatcgc actagtactg tagaccctgc ctt

//

LOCUS MN312592 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus 1 isolate XX13164-2 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312592

VERSION MN312592

KEYWORDS .

SOURCE Bat coronavirus 1

ORGANISM Bat coronavirus 1

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Alphacoronavirus; unclassified  
Alphacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat coronavirus 1"  
/mol\_type="genomic RNA"  
/isolate="XX13164-2"  
/host="Miniopterus fuliginosus"  
/db\_xref="taxon:2042696"  
/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88212"

/translation="RALPNVIRMISAMILGSEHENCCTNFDRYYRLCNELAQVLTEVV  
YSNGGFYLPKGGTTSGDATTAYANSVFNIFQAVSANINRILGVNSNTCNNLTVKELQR  
SLYDNCYRTSTVDPAFVDTFYGYLRKHFSMMI"

ORIGIN

1 agagctttgc ctaatgtgat tcgtatgata tccgcatga tttgggttc tgaacatgaa  
61 aattgttgta ctaacttga ccgttattac agattatgta acgagttggc acaagtgcta  
121 actgaagtag tctattctaa cggtggttt tatttaaac caggtggtac gacatcaggt  
181 gatgcaacga cagcttatgc caattctgtt ttaacatct tcaagcagt tagtgctaac  
241 attaatcgca tttggggcgt taatagcaat acttgcaata acttgacagt taaagagttg  
301 caacgctcat tgtatgacaa ttgtatcgc actagtactg tagaccagc cttgtagac

361 acgttttatg gctacttacg caaacatttc tctatgatga tt

//

LOCUS MN312593 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 512 isolate YY10 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312593

VERSION MN312593

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat coronavirus 512"

/mol\_type="genomic RNA"

/isolate="YY10"

/host="Scotophilus kuhlii"

/db\_xref="taxon:2664421"

/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88213"

/translation="RALPNMIRMISAMILGSKHVNCCSSSDRYRSCNELAQVLTEMV

YSNGGFYVKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNNIEVKQLQR

KLYDCCYRSSSVSQSFVEEYFGYLRKHFSMMI"

ORIGIN

1 agagctttgc ccaacatgat tagaatgatt tctgcaatga tacttggttc taagcacggt  
61 aactgctgta gtctagcga taggtactac agatcgtgta acgaactagc acaagtttta  
121 acagaaatgg ttattcaaa cgggtgcttt tatgtcaaac ctggtggtac tacatctggt  
181 gatgctacaa cagcttatgc caattcagtt ttaacatat ttcaggcaac tagtgcaaat  
241 gtaaacgct tgttgagtgt tgatagtaat acatgtaaca acatagaagt taagcaattg  
301 cagcgttaagt tgatgattg ttgtatcga tcatcaagtg tggatcaaag tttgttgaa  
361 gactactttg gttaccttcg taagcacttt tctatgatga tt

//

LOCUS MN312594 409 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus 512 isolate YY16 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312594

VERSION MN312594

KEYWORDS .

SOURCE Bat coronavirus 512

ORGANISM Bat coronavirus 512

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Coronavirinae; unclassified Coronavirinae.

REFERENCE 1 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..409

/organism="Bat coronavirus 512"

/mol\_type="genomic RNA"

/isolate="YY16"

/host="Scotophilus kuhlii"

/db\_xref="taxon:2664421"

/country="China"

gene <1..>409

/gene="RdRp"

CDS <1..>409

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88214"

/translation="CDRALPNMIRMISAMILGSKHVNCCSSSDRYRLCNELAQVLTE

MVYSNGGFYVKPGGTTSGDATTAYANSVFNIFQATSANVNRLLSVDSNTCNNIEVKQL

QRKLYDCCYRSSSVDQSFVEEYFGYLRKHFSMMI"

ORIGIN

1 atgtgataga gctttgccca acatgattag aatgatttct gcaatgatac ttggttctaa  
61 gcacgttaac tgctgtagtt ctacgcatag gtactacaga ttgtgtaacg aactagcaca  
121 agttttaaca gaaatggttt attcaaacgg tggcttttat gtcaaacctg gtggtactac  
181 atctggtgat gctacaacag cttatgcaa ttcagttttt aacatatttc aggcaactag  
241 tgcaaatgtt aaccgcttgt tgagtgttga tagtaataca tgtaacaaca tagaagttaa  
301 gcaattgcag cgtaagtgtg atgattgttg ttatcgatca tcaagtgtgg atcaaagttt  
361 tgttgaagag tactttgggtt accttcgeaa acacttttct atgatgatt

//

LOCUS MN312595 375 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 6233 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312595

VERSION MN312595

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 375)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 375)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..375

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="6233"

/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>375

/gene="RdRp"

CDS <1..>375

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88215"

/translation="DRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSEM

VMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGKNKIADKYVRNLQ

HRLYECLYRNRDVEDHEFVDELRL"

ORIGIN

1 tgatagagcc atgctaaca tgcttaggat aatggcctct ctgttcttg ctcgcaaaca  
61 tagcactgc tgtaactgt cacaccgtt ctacagatta gctaatgagt gtgcgcaagt  
121 attaagtgag atggatcatgt gtggcggtc actatatgtt aaaccagggtg gaacgtcatc  
181 cggatgatgct acaactgctt atgctaatag tgtcttaac attgtcaag ctgttacagc  
241 caatgtaa atgcactctt caactgatgg taacaagata gctgacaagt acgtccgcaa  
301 tctacaacac agctttatg agtgtctcta tagaaatagg gatgttgatc atgaattcgt  
361 ggatgagta cgcta

//

LOCUS MN312596 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 6255 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312596

VERSION MN312596

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="6255"

/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88216"

/translation="RAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSEMV

MCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGDKIADKYVRNLQH

RLYECLYRNRDVEDHEFVDEFYAYLRKHFSMMI"

ORIGIN

1 agagccatgc ctaacatgct taggataatg gcctctcttg ttcttgctcg caaacatagc  
61 acttggtgta acttatcaca ccgtttctac aggttagcta acgagtgtgc gcaagtatta  
121 agtgagatgg tcattgtgtg cggtcacta tatgttaaac caggtggaac atcatccggt  
181 gatgctacaa ctgcttatgc taatagtgc tttacattt gtcaagctgt tacagccaac  
241 gtaaatgcac tctttcaac tgatgtaaat aagatagctg acaagtatgt ccgcaatcta  
301 caacacaggc tctatgagtg tctctataga aatagggatg ttgatcacga atcgtggat  
361 gagttttacg cttacctgcg taaacatttc tctatgatga tt

//

LOCUS MN312597 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 6266 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312597

VERSION MN312597

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.



TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..402  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="6266"  
/host="unknown"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>402  
/gene="RdRp"  
CDS <1..>402  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88217"  
/translation="RAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSEMV  
MCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNLQH  
RLYECLYRNRDVDHEFVDEFYAYLRKHFSMMI"

ORIGIN

1 agagccatgc ctaacatgct taggataatg gcctctcttg ttcttgctcg caaacatage  
61 acttgctgta acttgtcaca ccgtttctac agattagcta atgagtgtgc gcaagtatta  
121 agtgagatgg tcattgtggt cggctcacta tatgttaaac caggtggaac gtcacccggt  
181 gatgctacaa ctgcttatgc taatagtgtc ttaacattt gcaagctgt tacagccaat  
241 gtaaagcac ttcttcaac tgatgtaac aagatagctg acaagtacgt ccgcaatcta  
301 caacacaggc tttatgagtg tctctataga aatagggatg ttgatcatga atcgtggat  
361 gagttttacg cttacctgcg taaacatttc tctatgatga tt

//

LOCUS MN312598 378 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 6278 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312598

VERSION MN312598

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 378)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 378)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..378  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="6278"  
/host="Hipposideros armiger"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>378  
/gene="RdRp"  
CDS <1..>378  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88218"  
/translation="CDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSE  
MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNL  
QHRLYECLYRNRDVDHEFVDECTL"

#### ORIGIN

1 tgtgatagag ccatgcctaa catgcttagg ataatggcct ctcttgttct tgctcgcaaa  
61 catagcactt gctgtaactt gtcacaccgt ttctacaggt tagctaata ga ggtgcgcaa  
121 gtattaagt agatggcat ggtggcgge tcgctatatg taaaccagg tgaacatca  
181 tccggtgatg ctacaactgc ttatgcta atgtgtctta acattgtca agctgttaca  
241 gccaatgtaa atgcactct tcaactgat ggtaacaaga tagctgacaa gtacgtccgc  
301 aatctacaac acaggettta tgagtgtctc tatagaaata gggatgtga tcatgaattc  
361 gtggatgagt gtacgcta

//

LOCUS MN312599 371 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 6301 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312599

VERSION MN312599

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 371)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 371)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..371  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="6301"  
/host="unknown"

/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>371  
/gene="RdRp"  
CDS <1..>371  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88219"  
/translation="CDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSE  
MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNL  
QHRLYECLYRNRDVEDHEFVDE"

#### ORIGIN

1 atgtgataga gccatgcta acatgcttag gataatggcc tctctgttc ttgctgcaa  
61 acatagcact tgttgaact taccacaccg ttctacagg ttagctaacg agtgtgcgca  
121 agtattaagt gagatggta tgtgtggcgg ctcactatat gttaaaccag gtggaacatc  
181 atccggtgat gctacaactg cttatgctaa tagtgtcttt aacattgtc aagctgttac  
241 agccaacgta aatgcacttc ttcaactga tgtaataag atagctgaca agtatgtccg  
301 caatctaaa cacaggtct atgagtgtct ctatagaaat agggatgtg atcacgaatt  
361 cgtggatgag t

//

LOCUS MN312600 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 6303 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312600

VERSION MN312600

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="6303"

/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88220"  
/translation="RAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSEMV  
MCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNLQH  
RLYECLYRNRDVDHEFVDEFYAYLRKHFSMMI"

ORIGIN

1 agagccatgc ctaacatgct taggataatg gcctctcttg ttcttgctcg caaacatagc  
61 acttgctgta acttgtcaca ccgtttctac agattagcta atgagtgtgc gcaagtatta  
121 agtgagatgg tcattgtgtg cggtcacta tatgttaaac caggtggaac gtcacccggt  
181 gatgctacaa ctgcttatgc taatagtgtc tttaacattt gtcaagctgt tacagccaat  
241 gtaaatgcac ttcttcaac tgatggtaac aagatagctg acaagtacgt ccgcaatcta  
301 caacacaggc tttatgagtg tctctataga aatagggatg ttgatcatga atcgtggat  
361 gagttttacg cttactgcg taaacatttc tctatgatga tt

//

LOCUS MN312601 400 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 6500 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312601

VERSION MN312601

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 400)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 400)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..400

/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="6500"  
/host="Aselliscus stoliczkanus"  
/db\_xref="taxon:1508227"  
/country="China"

gene <1..>400

/gene="RdRp"

CDS <1..>400

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88221"

/translation="DRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSEM

VMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNLQ  
HRLYECLYRNRDVDHEFVDEFYAYLRKHFSM"

ORIGIN

1 tgacagacc atgcctaaca tgcttaggat aatggcctct cttgttctg ctgcaaaca  
61 tagcacttgc tgaacttg cacaccgtt ctacaggta gctaatgagt gtgcgcaagt  
121 attaagtgag atggcatgt gggcggtc actatatgtt aaaccaggtg gaacatcatc  
181 cggtagtct acaactgctt atgctaatag tgccttaac atttgtcaag ctgttacagc  
241 caatgaaat gcaactcttt caactgatgg taacaagata gctgacaagt acgtccgcaa  
301 tctacaacac aggccttatg agtgtctcta tagaaatagg gatgttgatc atgaattcgt  
361 ggatgagttt tacgcttacc tgcgtaaaca tttctctatg

//

LOCUS MN312602 399 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 6530 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312602

VERSION MN312602

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..399

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="6530"

/host="Rhinolophus affinis"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>399

/gene="RdRp"

CDS <1..>399

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88222"

/translation="AMPNMLRIMASLV LARKHSTCCNLSHRFYRLANCAQVLSEMVM

CGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNLQHR

LYECLYRNRDVDHEFVDEFYAYLRKHFSMM"

ORIGIN

1 agccatgect aacatgctta ggataatggc ctctcttgtt cttgctcgca aacatagcac  
61 ttgctgtaac ttatcacacc gtttctacag gtttagtaac gagggtgcgc aagtattaag

121 tgatggtc atgtgtggcg gctcactata tgtaaacca ggtggaacat catccggtga  
181 tctacaact gcttatgcta atagtgtctt taacattgt caagctgta cagccaacgt  
241 aatgcactt ctttcaactg atgtaataa gatagctgac aagtatgtcc gcaatctaca  
301 acacaggctc tatgagtgc tctatagaaa tagggatggt gacacgaat tctggtgatga  
361 gttttacgct tactctgcgta aacatttctc tatgatgat

//

LOCUS MN312603 406 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 6533 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312603

VERSION MN312603

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..406

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="6533"

/host="Aselliscus stoliczkanus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>406

/gene="RdRp"

CDS <1..>406

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88223"

/translation="DRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANCAQVLSEM

VMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGKNKIADKYVRNLQ

HRLYECLYRNRDVEDHEFVDEFYAYLRKHFSMM"

ORIGIN

1 gtgatagagc catgcctaac atgettagga taatggcctc tctgttctt getcgcaaac  
61 atagcacttg ctgtaactg tcacaccgtt tctacaggtt agctaatag tgtgcgcaag  
121 tattaagtga gatggatcgt tgtggcggct cactatatgt taaaccagg ggaacatcat  
181 ccggtgatgc tacaactgct tatgctaata gtgtctttaa catttgtaa gctgttacag  
241 ccaatgtaa tgcactcctt tcaactgatg gtaacaagat agctgacaag tacgtccgca  
301 atctacaaca caggctttat gagtgtctct atagaaatag ggatgttgat catgaattcg  
361 tggatgagtt ttacgcttac ctgcgtaaac atttctctat gatgat

//

LOCUS MN312604 405 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 7325 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312604

VERSION MN312604

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 405)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 405)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..405

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="7325"

/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>405

/gene="RdRp"

CDS <1..>405

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88224"

/translation="DRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSEM

VMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGKNKIADKYVRNLQ

HRLYECLYRNRDVDHEFVDEFYAYLRKHFSMM"

ORIGIN

1 gtgatagagc catgcctaac atgettagga taatggcctc tctgttctt gctcgcaaac  
61 atagcaactg ctgtaacttg tcacaccggt tetacagggt agctaagag tgtgcgcaag  
121 tattaagtga gatggatcag tgtggcggt cactatatgt taaaccagg ggaacatcat  
181 ccggtgatgc tacaactgct tatgctaata gtgtctttaa ctttgtcaa gctgttacag  
241 ccaatgtaaa tgcactcctt tcaactgatg gtaacaagat agctgacaag tacgtccgca  
301 atctacaaca caggetttat gagtgtctct atagaaatag ggatgttgat catgaattcg  
361 tggatgagtt ttacgcttac ctgcgtaaac atttctctat gatga

//

LOCUS MN312605 403 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 7326 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312605

VERSION MN312605

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 403)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 403)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..403

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="7326"

/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>403

/gene="RdRp"

CDS <1..>403

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88225"

/translation="RAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANCAQVLSEMV

MCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNLQH

RLYECLYRNRDVDHEFVDEFYAYLRKHFMMI"

ORIGIN

1 agagccatgc ctaacatgct taggataatg gcctctcttg ttcttgctcg caaacatagc  
61 acttgctgta actgtcaca cegtttctac aggttagcta atgagtgtgc gcaagtatta  
121 agtgagatgg tcattgtgg cggtcacta tatgttaaac caggtggaac atcatccggt  
181 gatgctaaa ctgcttatgc taatagtgc ttaacattt gtcaagctgt tacagccaat  
241 gtaaatgac tctttcaac tgaaggtaac aagatagctg acaagtacgt cgcgaatcta  
301 caacacaggc tttatgagtg tctctataga aatagggatg ttgatcatga atcgtggat  
361 gagttttacg cttacctgcg taacatttc tctatgatga ttc

//

LOCUS MN312606 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 7330 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312606

VERSION MN312606

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;



Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="7330"

/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88226"

/translation="RAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSEMV

MCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNLQH

RLYECLYRNRDVDHEFVDEFYAYLRKHFSMMI"

ORIGIN

1 agagccatgc ctaacatgct taggataatg gcctctcttg ttcttgctcg caaacatagc  
61 acttgctgta actgtgcaca ccgtttctac aggttagcta atgagtgtgc gcaagtatta  
121 agtgagatgg tcatgtgtgg cggctcacta tatgttaaac caggtggaac atcatccggt  
181 gatgetacaa ctgcttatgc taatagtgtc tttaacattt gtcaagctgt tacagccaat  
241 gtaaatgcac tcctttcaac tgatggtaac aagatagctg acaagtacgt ccgcaatcta  
301 caacacaggc tttatgagt tctctataga aatagggatg ttgatcatga atcgtggat  
361 gagttttacg cttactgcg taaacatttc tctatgatga tt

//

LOCUS MN312607 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 7335 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312607

VERSION MN312607

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 402)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="7335"  
/host="Aselliscus stoliczkanus"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>402  
/gene="RdRp"  
CDS <1..>402  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88227"  
/translation="RAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSEMV  
MCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNLQH  
RLYECLYRNRDVDHEFVDEFYAYLRKHFSMMI"

ORIGIN

1 agagccatgc ctaacatgct taggataatg gcctctcttg ttcttgctcg caaacatagc  
61 acttgctgta acttgtcaca ccgtttctac aggttagcta atgagtgtgc gcaagtatta  
121 agtgagatgg tcattgtggt cggctcacta tatgttaaac caggtggaac atcatccggt  
181 gatgctacaa ctgcttatgc taatagtgtc tttaacattt gtcaagctgt tacagccaat  
241 gtaaagtgcac tctttcaac tgatggtaac aagatagctg acaagtacgt ccgcaatcta  
301 caacacaggc tttatgagtg tctctataga aatagggatg ttgatcatga atcgtggat  
361 gagttttacg cttacctgcg taaacattc tctatgatga tt

//

LOCUS MN312608 381 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 7519 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312608

VERSION MN312608

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 381)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 381)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..381  
/organism="Bat betacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="7519"  
/host="Hipposideros pomona"  
/db\_xref="taxon:1805463"  
/country="Laos"  
gene <1..>381  
/gene="RdRp"  
CDS <1..>381  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88228"  
/translation="KCDRAMPNMTRIFASLILARKHGTCCTRGERFYRLANCAQVLS  
EMVLCGGALYVKPGGTSSGDATTAYANSVFNICQAVTANVSALLSANGNKIVDNYVRN  
LQRQLYENVYRSVHVDHKFVEEYYS"

ORIGIN

1 aaatgtgata gagcaatgcc taatatgaca cgtatttcg cgtcattgat tttggctagg  
61 aaacatggta cttgtgttac gcgtggtgaa cgattttacc gcttggttaa tgagtgcgct  
121 caagtattga gcgaatggt gttgtgtggt ggtgcgttgt atgtgaaacc agtggtgaca  
181 tcactggcg acgtactac cgcgtatgca aattctgtct tcaatatctg ccaggctgtt  
241 actgctaag ttagcgtct actgtcagct aatggaaca agatttgga caactacgtg  
301 cgcaactac agcgtcaatt gtatgagaat gtgtatcgta gtgtcatgt tgatcataag  
361 tttgtagaag aatactacag c

//

LOCUS MN312609 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat betacoronavirus isolate 7521 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312609

VERSION MN312609

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat betacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="7521"  
/host="Hipposideros pomona"  
/db\_xref="taxon:1805463"  
/country="Laos"  
gene <1..>402  
/gene="RdRp"  
CDS <1..>402  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88229"  
/translation="RAMPNMTRIFASLILARKHGTCCTRGERFYRLANECAQVLSEMV  
LCGGALYVKPGGTSSGDATTAYANSVFNICQAVTANVSALLSANGNKIVDNYVRNLQR  
QLYENVYRSVHVDHKFVVEEYYSFLRKHFSSMMI"

#### ORIGIN

1 agagcaatgc ctaatatgac acgtatttc gcgctattga ttttgctag gaaacatggt  
61 acttgttga cgcgtggtga acgattttac cgcctggcta atgagtgcgc tcaagtattg  
121 agcgaaatgg tgtgtgtgg tggcgcttg tatgtgaaac caggtggtac atcatctggc  
181 gacgctacta cgcgctatgc aaattctgtc tcaatatct gccaggctgt tactgctaat  
241 gttagcgtc tactgtcagc taatgaaac aagattgtgg acaactacgt gcgcaactta  
301 cagcgtcaat tgtatgagaa tgtgtatcgt agtggtcatg ttgatcataa gttttagtaa  
361 gaatactaca gcttttgag gaaacatttt tctatgatga tt

//

LOCUS MN312610 375 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rousettus bat coronavirus HKU9 isolate 7522 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.  
ACCESSION MN312610  
VERSION MN312610  
KEYWORDS .

SOURCE Rousettus bat coronavirus HKU9  
ORGANISM Rousettus bat coronavirus HKU9  
Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Nobecovirus.  
REFERENCE 1 (bases 1 to 375)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 375)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers  
source 1..375  
/organism="Rousettus bat coronavirus HKU9"  
/mol\_type="genomic RNA"  
/isolate="7522"  
/host="Rousettus sp."  
/db\_xref="taxon:694006"

gene /country="Laos"  
<1..>375  
/gene="RdRp"  
CDS <1..>375  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88230"  
/translation="CDRAMPNLLRIFASLILARKHATCCNASERFYRLANECAQVLSE  
MVLGGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQEL  
QRRLYLGIIYRSNTVDNELVLDY"

#### ORIGIN

1 aatgtgatag agctatgcct aattgttgc gtatattgc cagccttatt ttagctcgta  
61 agcatgcaac ttgttgaat gcctctgaga gattttatag gttggctaataaat gaatgcgcgc  
121 aggttttgag tgagatggtc ctctcggag gagggttta cgtgaaacct ggtggtacca  
181 gtatgggaga tccacaact gcatatgcta acagtgttt taacatctgt caagctgtta  
241 gtgtaactt taatacctt ttatctatag acggttaata gatttacacc acctatgtgc  
301 aggaactgca gaggcggta tacttgggta tataccgtag taatactgtg gataatgagt  
361 tagttctgga ttatt

//

LOCUS MN312611 375 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus GCCDC1 isolate 7523 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312611

VERSION MN312611

KEYWORDS .

SOURCE Bat coronavirus GCCDC1

ORGANISM Bat coronavirus GCCDC1

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 375)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 375)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..375  
/organism="Bat coronavirus GCCDC1"  
/mol\_type="genomic RNA"  
/isolate="7523"  
/host="unknown"  
/db\_xref="taxon:2126098"  
/country="Laos"  
gene <1..>375  
/gene="RdRp"  
CDS <1..>375  
/gene="RdRp"

/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88231"  
/translation="KCDRAMPNLLRIFASLILARKHSTCCNTSERFYRLANECAQVLS  
EIVLCGGGFYVKPGGTSSGDSTAYANSVFNICQAVSANLNTFLSRDGNKIYNSYVQG  
LQRRLYLGIYRTHTVDMELVTEY"

ORIGIN

1 aaatgata gagctatgcc taattgcta cgcattttg ctagcttaat attggcacgt  
61 aagcatagta cgtgttcaa tacttctgaa cggttctacc gtcttgctaa tgagtgtgcg  
121 caagtttca gtgaaattgt cctctgcggt ggcgggtttt atgtaagcc cgggtggaact  
181 agcagtggcg attctactac agcgtacgct aatagtgtgt ttaacatatg ccaagctgtg  
241 agcgccaate tcaacacatt tttgtctagg gatggcaata agatatataa ctcttatgtg  
301 cagggcttac agaggcgcct ttacttgggt atatatcgta cacacacagt tgacatggaa  
361 ttggttacgg agtat

//

LOCUS MN312612 373 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus GCCDC1 isolate 7525 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312612

VERSION MN312612

KEYWORDS .

SOURCE Bat coronavirus GCCDC1

ORGANISM Bat coronavirus GCCDC1

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 373)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 373)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..373

/organism="Bat coronavirus GCCDC1"

/mol\_type="genomic RNA"

/isolate="7525"

/host="Eonycteris spelaea"

/db\_xref="taxon:2126098"

/country="Laos"

gene <1..>373

/gene="RdRp"

CDS <1..>373

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88232"

/translation="CDRAMPNLLRIFASLILARKHSTCCNTSERFYRLANECAQVLSE

IVLCGGGFYVKPGGTSSGDSTAYANSVFNICQAVSANLNTFLSRDGNKIYNSYVQGL

QRRLYLGIIYRTHTVDMELVRS"

ORIGIN

1 aatgtgatag agctatgcct aatttgctac gcattttgc tagcttaata ttggcagca  
61 agcatagtac gtgttgaat acttctgaac ggtctaccg tcttgctaat gagggtgcgc  
121 aagtgtcag tgaattgtc ctctgcggtg gcgggttcta tgtaagcct ggtggaacta  
181 gcagtgccga ttactacta gcgtacgcta atagtgtgtt taacatatgt caagctgtga  
241 gcgcaaatct caacacatt ttgctagag atggcaataa gatataaac tcttatgtgc  
301 agggcttaca aaggcgcctg tacctgggta tatatcgtac gcacacagtt gacatggaat  
361 tggtagggag tat

//

LOCUS MN312613 377 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat coronavirus GCCDC1 isolate 7530 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312613

VERSION MN312613

KEYWORDS .

SOURCE Bat coronavirus GCCDC1

ORGANISM Bat coronavirus GCCDC1

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 377)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 377)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..377

/organism="Bat coronavirus GCCDC1"

/mol\_type="genomic RNA"

/isolate="7530"

/host="Eonycteris spelaea"

/db\_xref="taxon:2126098"

/country="Laos"

gene <1..>377

/gene="RdRp"

CDS <1..>377

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88233"

/translation="CDRAMPNLLRIFASLILARKHSTCCNTSERFYRLANECAQVLSE

IVLCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSRDGNKIYNSYVQGL

QRRLYLGIIYRTHTVDMELVTEYT"

ORIGIN

1 atgtgataga gctatgceca atttgctacg catttttgc agcttaatat ttggcagtaa  
61 acatagtagc tgttgaata cttctgagcg gttctaccg cttgctaatg agtgtgcgca  
121 agttcttagt gaaattgtcc tctgcggtgg cgggtttat gtaagcctg gtggaactag

181 cagtggcgat tctactacag cgtacgctaa tagtgtgttt aacatatgtc aagctgtgag  
241 tgccaatctc aacacatttt tgtctagggga tggcaataag atatataact cttatgtgca  
301 gggccttacag aggcgcctgt acttgggtat atactgtaca cacacagtag acatggaatt  
361 ggttacggag tatacaa

//

LOCUS MN312614 379 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rousettus bat coronavirus HKU9 isolate 7531 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312614

VERSION MN312614

KEYWORDS .

SOURCE Rousettus bat coronavirus HKU9

ORGANISM Rousettus bat coronavirus HKU9

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Nobecovirus.

REFERENCE 1 (bases 1 to 379)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 379)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..379

/organism="Rousettus bat coronavirus HKU9"

/mol\_type="genomic RNA"

/isolate="7531"

/host="Rousettus sp."

/db\_xref="taxon:694006"

/country="Laos"

gene <1..>379

/gene="RdRp"

CDS <1..>379

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88234"

/translation="CDRAMPNLLRIFASLILARKHATCCNASERFYRLANCAQVLSE

MVLCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQEL

QRRLYLGIIYRSNTVDNELVLDYIT"

ORIGIN

1 aatgtgatag agctatgcct aatttattgc gtatattgc tagccttatt ttactctgta  
61 agcatgcaac ttgttgcaat gcctctgaga gattttatag attggctaataa gaatgcgcgc  
121 aggttttgag tgagatggtc ctctgtggag gagggttta cgtgaaacct ggtggtacca  
181 gtatgggaga tccacaact gcatatgcta acagtgtttt caacatttgt caagctgta  
241 gtgctaatac taataccttt ttatctatag acggtaataa gatttacacc acttatgtgc  
301 aggaattgca gagggcggtta tacttgggta tataccgtag taactactgt gataatgagt  
361 tagttctgga ttatataac

//



LOCUS MN312615 375 bp RNA linear VRL 07-NOV-2019  
DEFINITION Roussetus bat coronavirus HKU9 isolate 7538 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312615

VERSION MN312615

KEYWORDS .

SOURCE Roussetus bat coronavirus HKU9

ORGANISM Roussetus bat coronavirus HKU9

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Nobecovirus.

REFERENCE 1 (bases 1 to 375)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 375)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..375

/organism="Roussetus bat coronavirus HKU9"

/mol\_type="genomic RNA"

/isolate="7538"

/host="Roussetus sp."

/db\_xref="taxon:694006"

/country="Laos"

gene <1..>375

/gene="RdRp"

CDS <1..>375

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88235"

/translation="CDRAMPNLLRIFASLILARKHATCCNASERFYRLANECAQVLSE

MVLCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQEL

QRRLYLGIIYRSNTVDNELVLDY"

ORIGIN

1 aatgtgatag agctatgcct aattattgc gtatattgc cagccttatt ttagctcgta  
61 agcatgcaac ttgttgcaat gcctctgaga ggtttatag gttggctaat gaatgcgctc  
121 aggttctgag tgaatggtc ctctgtggag gagggttta cgtgaaacct ggtggtacta  
181 gtatgggaga tccacaact gcatatgcta acagtgttt taacattgt caagctgta  
241 gtgctaact taacacctt tatctatag atgtaataa gattacact acttatgttc  
301 aggaactgca gaggcggta tacttgggta ttaccgtag taactctgt gataatgagt  
361 tagttttaga ttatt

//

LOCUS MN312616 373 bp RNA linear VRL 07-NOV-2019

DEFINITION Roussetus bat coronavirus HKU9 isolate 7540 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312616

VERSION MN312616

KEYWORDS .

SOURCE Roussettus bat coronavirus HKU9

ORGANISM Roussettus bat coronavirus HKU9

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Nobecovirus.

REFERENCE 1 (bases 1 to 373)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 373)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..373

/organism="Roussettus bat coronavirus HKU9"

/mol\_type="genomic RNA"

/isolate="7540"

/host="Eonycteris spelaea"

/db\_xref="taxon:694006"

/country="Laos"

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/gene="RdRp"

CDS <1..>373

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88236"

/translation="CDRAMPNLLRIFASLILARKHATCCNASERFYRLANECAQVLSE

MVLCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQEL

QRRLYLGIIYRSNTVDNELVLDY"

ORIGIN

1 tgtgatagag ctatgcctaa tttgttgegt atattgcca gcctatttt agctcgtaag  
61 catgcaactt gttgcaatgc ctctgagaga tttataggt tggctaata atgcgcgcag  
121 gttttgagt agatggctct ctgtggagga gggttttac tgaacctgg tggaccagt  
181 agtggagatt ccacaactgc atatccaac agtgtttta acatctgtca agctgttagt  
241 gctaatctta atacctttt atctatagac ggtaataaga ttacaccac ctatgtgcag  
301 gaactgcaga ggcgggtata cttgggtata taccgtagta aactgtgga taatgagta  
361 gttctggatt att

//

LOCUS MN312617 370 bp RNA linear VRL 07-NOV-2019

DEFINITION Roussettus bat coronavirus HKU9 isolate 7541 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312617

VERSION MN312617

KEYWORDS .

SOURCE Roussettus bat coronavirus HKU9

ORGANISM Roussettus bat coronavirus HKU9

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Nobecovirus.

REFERENCE 1 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..370  
/organism="Rousettus bat coronavirus HKU9"  
/mol\_type="genomic RNA"  
/isolate="7541"  
/host="Rousettus sp."  
/db\_xref="taxon:694006"  
/country="Laos"  
gene <1..>370  
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CDS <1..>370  
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/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88237"  
/translation="CDRAMPNLLRIFASLILARKHATCCNASERFYRLANCAQVLSE  
MVLCCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQEL  
QRRLYLGIYRSNTVDNELVLD"

ORIGIN

1 tgtgatagag ctatgcctaa tttgttgcgt atatttgcca gtcttatttt agctcgtaag  
61 catgcaactt gttgcaatgc cctctgagaga tttataggt tggctaata ga atgcgcgcag  
121 gttttgagtg agatggttct ttgtggagga gggttttacg tgaacctgg tggtagcagt  
181 agtggagatt ccacaactgc atatgctaac agtgttttca acatctgtca agctgttagt  
241 gctaatactta ataccttttt atctatagac ggtaataaga ttacaccac ctatgtgcag  
301 gaactgcaga ggcggttata cttgggtata taccgtagta aactgtgga taatgagta  
361 gttctggatt

//

LOCUS MN312618 374 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rousettus bat coronavirus HKU9 isolate 7542 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312618

VERSION MN312618

KEYWORDS .

SOURCE Rousettus bat coronavirus HKU9

ORGANISM Rousettus bat coronavirus HKU9  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Nobecovirus.

REFERENCE 1 (bases 1 to 374)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 374)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..374  
/organism="Rousettus bat coronavirus HKU9"  
/mol\_type="genomic RNA"  
/isolate="7542"  
/host="Rousettus sp."  
/db\_xref="taxon:694006"  
/country="Laos"  
gene <1..>374  
/gene="RdRp"  
CDS <1..>374  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88238"  
/translation="CDRAMPNLLRIFASLILARKHATCCNASERFYRLANCAQVLSE  
MVLCCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQEL  
QRRLYLGIIYRSNTVDNELVLDY"

ORIGIN

1 atgtgataga gctatgccta attgttgcg tatattgcc agccttatt tagctcgtaa  
61 gcatgcaact tgttgcaatg cctctgagag atttatagg ttggctaag aatgcgcgca  
121 ggttttgagt gagatggtc ttgtggagg agggtttac gtgaaacctg gtggtaccag  
181 tagtgagat tccacaactg catatgctaa cagtgtttc aacatctgc aagctgtag  
241 tgctaatctt aataccttt tatctataga cgtaataag atttacacca cctatgtgca  
301 ggaactgcag aggcggttat acttggtat ataccgtagt aacactgtgg ataagagtt  
361 agttctggat tatt

//

LOCUS MN312619 374 bp RNA linear VRL 07-NOV-2019

DEFINITION Rousettus bat coronavirus HKU9 isolate 7553 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312619

VERSION MN312619

KEYWORDS .

SOURCE Rousettus bat coronavirus HKU9

ORGANISM Rousettus bat coronavirus HKU9

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Nobecovirus.

REFERENCE 1 (bases 1 to 374)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 374)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
source            1..374  
                  /organism="Rousettus bat coronavirus HKU9"  
                  /mol\_type="genomic RNA"  
                  /isolate="7553"  
                  /host="Eonycteris spelaea"  
                  /db\_xref="taxon:694006"  
                  /country="Laos"  
gene              <1..>374  
                  /gene="RdRp"  
CDS                <1..>374  
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                  /codon\_start=2  
                  /product="RNA-dependent RNA polymerase"  
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                  /translation="CDRAMPNLLRIFASLILARKHATCCNASERFYRLANECAQVLSE  
                  MVLCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQEL  
                  QRRLYLGIIYRSNTVDNELVLDY"

#### ORIGIN

1 atgtgataga gctatgccta atttgttgcg tatattgcc agccttatt tagctcgtaa  
61 gcatgcaact tgttgaatg cctctgagag atttatagg ttggctaatg aatgcgcgca  
121 ggttttgagt gagatggtcc tctgtggagg agggttttac gtgaaacctg gtggtaccag  
181 tagtggagat tcacaactg catatgctaa cagtgtttt aacatctgtc aagctgttag  
241 tgctaatctt aataccttt tatctataga cgtaataag atttacacca cctatgtgca  
301 ggaactgcag aggcgggtat acttgggtat ataccgtagt aacactgtgg ataatgagtt  
361 agttctggat tatt

//

LOCUS    MN312620            374 bp    RNA    linear    VRL 07-NOV-2019  
DEFINITION    Rousettus bat coronavirus HKU9 isolate 7558 RNA-dependent RNA  
                  polymerase (RdRp) gene, partial cds.

ACCESSION    MN312620

VERSION      MN312620

KEYWORDS     .

SOURCE       Rousettus bat coronavirus HKU9

ORGANISM     Rousettus bat coronavirus HKU9

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Nobecovirus.

REFERENCE    1 (bases 1 to 374)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Origin and cross-species transmission of bat coronaviruses in China

JOURNAL      Unpublished

REFERENCE    2 (bases 1 to 374)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Direct Submission

JOURNAL      Submitted (13-AUG-2019) Key laboratory of special pathogens and  
                  biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
                  Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

source            1..374  
                  /organism="Rousettus bat coronavirus HKU9"

/mol\_type="genomic RNA"  
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/db\_xref="taxon:694006"  
/country="Laos"  
gene <1..>374  
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MVLCCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQEL  
QRRLYLGIRSNNTVDNELVLDY"

#### ORIGIN

1 atgtgataga gctatgccta atttgttgcg tatatttggc agccttatt tagctcgtaa  
61 gcatgcaact tgttgcaatg cctctgagag atttatagg ttggctaag aatgcgcgca  
121 ggttttgagt gagatggcc tctgtggagg agggttttat gtgaaacctg gtggtaccag  
181 tagtggagat tccacaactg catatgctaa cagtgtttt aacatctgtc aggctgttag  
241 tgctaacttt aataccttt tatctataga cggtataaag attacacca cctatgtgca  
301 ggaactgcag aggcgggtat acttgggtat ataccgtagt aacactgtgg ataatgagtt  
361 agttctggat tatt

//

LOCUS MN312621 372 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rousettus bat coronavirus HKU9 isolate 7559 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312621

VERSION MN312621

KEYWORDS .

SOURCE Rousettus bat coronavirus HKU9

ORGANISM Rousettus bat coronavirus HKU9

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Nobecovirus.

REFERENCE 1 (bases 1 to 372)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 372)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..372  
/organism="Rousettus bat coronavirus HKU9"  
/mol\_type="genomic RNA"  
/isolate="7559"  
/host="Rousettus sp."  
/db\_xref="taxon:694006"  
/country="Laos"

gene <1..>372  
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CDS <1..>372  
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/translation="CDRAMPNLLRIFASLILARKHATCCNASERFYRLANECAQVLSE  
MVLCCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQEL  
QRRLYLGIYRSNTVDNELVLD"

ORIGIN

1 atgtgataga gctatgccta atctgttgcg tatattgcc agccttatt tagctcgtaa  
61 gcacgcaact tgttgcaatg cctctgagag atttatagg tggctaata aatgcgcgca  
121 ggttttgagt gaaatggccc tctgtggagg agggttttac gtgaaacctg gtggtaccag  
181 tagtggagat tctacaactg catatgctaa cagtgtttc aacatctgtc aagctgttag  
241 tgctaatctt aatacctttt tatctataga cgtaataag atttacacca cctatgtgca  
301 ggaactgcag aggcgggtat acttgggtat ataccgtagt aacactgtgg ataatgagtt  
361 agttctggat ta

//

LOCUS MN312622 376 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus GCCDC1 isolate 7564 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312622

VERSION MN312622

KEYWORDS .

SOURCE Bat coronavirus GCCDC1

ORGANISM Bat coronavirus GCCDC1

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 376)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 376)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..376  
/organism="Bat coronavirus GCCDC1"  
/mol\_type="genomic RNA"  
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/host="Eonycteris spelaea"  
/db\_xref="taxon:2126098"  
/country="Laos"

gene <1..>376  
/gene="RdRp"

CDS <1..>376  
/gene="RdRp"  
/codon\_start=3

/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88242"  
/translation="CDRAMPNLLRIFASLILARKHSTCCNTSERFYRLANCAQVLSE  
IVLCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSRDGNKIYNSYVQGL  
QRRLYLGIYRTHTVDMELVTEYT"

ORIGIN

1 aatgtgatag agctatgccc aattgctac gcattttgc tagcttaata ttggcacgta  
61 aacatagtag gtgttgcaat acctctgagc ggttctaccg tcttgctaat gagtgtgcgc  
121 aagttcttag tgaattgtc ctctgcggtg gcgggtttta tgtaagcct ggtggaacta  
181 gcagtggcga ttactaca gcgtacgcta atagtgtgtt taacatatgt caagctgtga  
241 gtgccaatct caacacattt ttgtctaggg atggcaataa gatataaac tcttatgtgc  
301 agggcttaca gaggcgctg tacttgggta tatatcgtag acacacagta gacatggaat  
361 tggttacgga gtatac

//

LOCUS MN312623 374 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus GCCDC1 isolate 7566 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312623

VERSION MN312623

KEYWORDS .

SOURCE Bat coronavirus GCCDC1

ORGANISM Bat coronavirus GCCDC1

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 374)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 374)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..374

/organism="Bat coronavirus GCCDC1"

/mol\_type="genomic RNA"

/isolate="7566"

/host="Eonycteris spelaea"

/db\_xref="taxon:2126098"

/country="Laos"

gene <1..>374

/gene="RdRp"

CDS <1..>374

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88243"

/translation="CDRAMPNLLRIFASLILARKHSTCCNTSERFYRLANCAQVLSE

IVLCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSRDGNKIYNSYVQGL

QRRLYLGIYRTHTVDMELVTEYT"



ORIGIN

1 tgtgatagag ctatgccaa tttgctacgc attttgcta gcttaatt ggcacgtaag  
61 catagtacgt gttgcaatac ttcagaacgg tttaccgctc ttgctaata ga gttgdcgcaa  
121 gttctcagtg aaattgtcct ctgcggtggc gggttttacg ttaagcctgg tggaactagc  
181 agtggcgatt ctactacagc gtacgcta at agtgtgttta atatatgca agctgtgagc  
241 gccaatctca acacatntt gcttagagat ggcaataaga tatataactc ttatgtgcag  
301 ggcttacaga ggcgcctgta cttgggtata tatcgtacac acacagtaga catggaattg  
361 gttacggagt atac

//

LOCUS MN312624 374 bp RNA linear VRL 07-NOV-2019

DEFINITION Roussetus bat coronavirus HKU9 isolate 7569 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312624

VERSION MN312624

KEYWORDS .

SOURCE Roussetus bat coronavirus HKU9

ORGANISM Roussetus bat coronavirus HKU9

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae; Orthocoronavirinae; Betacoronavirus; Nobecovirus.

REFERENCE 1 (bases 1 to 374)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J., Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 374)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J., Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..374

/organism="Roussetus bat coronavirus HKU9"  
/mol\_type="genomic RNA"  
/isolate="7569"  
/host="Roussetus sp."  
/db\_xref="taxon:694006"  
/country="Laos"

gene <1..>374

/gene="RdRp"

CDS <1..>374

/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88244"  
/translation="CDRAMPNLLRIFASLILARKHATCCNASERFYRLANCAQVLSE  
MVLCCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQEL  
QRRLYLGIIYRSNTVDNELVLDY"

ORIGIN

1 aatgtgatag agctatgcct aatttattgc gtatattgc tagccttatt ttagctcgta  
61 agcagcgaac ttgttgaat gcctctgaga gattttatag gttggcta at gaatgcgcgc  
121 aggttttgag tgagatggtc ctctgtggag gagggttta cgtgaaacct ggtggtacca  
181 gtatgggaga tccacaact gcatatgcta atagtgttt taacattgt caagctgtta

241 gtgctaactct taataccttt ttatctatag acggtaataa gatttacacc acttatgtgc  
301 aggaattaca gaggcgttta tacttgggta tataccgtag taactctgtg gataatgagt  
361 tagttctgga ttat

//

LOCUS MN312625 380 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 7570 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312625

VERSION MN312625

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 380)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 380)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..380

/organism="Bat betacoronavirus"

/mol\_type="genomic RNA"

/isolate="7570"

/host="Hipposideros pomona"

/db\_xref="taxon:1805463"

/country="Laos"

gene <1..>380

/gene="RdRp"

CDS <1..>380

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88245"

/translation="CDRAMPNMTRIFASLILARKHGTCCTRGERFYRLANCAQVLSE

MVLCGGALYVKPGGTSSGDATTAYANSVFNICQAVTANVSALLSANGNKIVDNYVRNL

QRQLYENVYRSVHVDHKFVEEYYS"

ORIGIN

1 aatgtgatag agcaatgcct aatatgacac gtatttcgc gtcattgatt ttggctagga  
61 aacatggtag ttgtgtacg cgtgggtaac gattttaccg cctggctaag gattgcgctc  
121 aagtattgag cgaatgggtg ttgtgtgggt gtgcggtgta tgtgaaacca ggtggtacat  
181 catctggcga cgctactacc gcgtatgcaa attctgtctt caatatctgc caggctgta  
241 ctgctaattg tagcgtctca ctgtcagcta atggaaaca gattgtggac aactacgtgc  
301 gcaactaca gcgtcaattg tatgagaatg tgtatcgtag tttcatgtt gatcataagt  
361 ttgtagaaga atactacagc

//

LOCUS MN312626 373 bp RNA linear VRL 07-NOV-2019

DEFINITION Roussetus bat coronavirus HKU9 isolate 7575 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312626

VERSION MN312626

KEYWORDS .

SOURCE Roussetus bat coronavirus HKU9

ORGANISM Roussetus bat coronavirus HKU9

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Nobecovirus.

REFERENCE 1 (bases 1 to 373)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 373)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..373

/organism="Roussetus bat coronavirus HKU9"

/mol\_type="genomic RNA"

/isolate="7575"

/host="unknown"

/db\_xref="taxon:694006"

/country="Laos"

gene <1..>373

/gene="RdRp"

CDS <1..>373

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88246"

/translation="CDRAMPNLLRIFASLILARKHATCCNASERFYRLANCAQVLSE

MVLCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQEL

QRRLYLGIIYRSNTVDNELVLD"

ORIGIN

1 aatgtgatag agctatgcct aattattgc gtatattgc tagccttatt ttagctcgta

61 agcatgcaac ttgttgcaat gcctctgaga gatttatag attggctaat gaatgcgcgc

121 aggttttgag tgagatggtc ctctgtggag gagggttta cgtgaaacct ggtggtacca

181 gtatgggaga tccacaact gcatatgcta acagtgttt caacattgt caagctgta

241 gtgtaactc taatacttt ttatctatag acgtaataa gatttacacc acttatgtc

301 aggaattgca gaggcggta tactgggta tataccgtag taactctg gataatgagt

361 tagttctgga tta

//

LOCUS MN312627 374 bp RNA linear VRL 07-NOV-2019

DEFINITION Roussetus bat coronavirus HKU9 isolate 7579 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312627

VERSION MN312627

KEYWORDS .

SOURCE Roussetus bat coronavirus HKU9

ORGANISM Roussetus bat coronavirus HKU9

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Nobecovirus.

REFERENCE 1 (bases 1 to 374)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 374)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..374

/organism="Roussetus bat coronavirus HKU9"

/mol\_type="genomic RNA"

/isolate="7579"

/host="Roussetus sp."

/db\_xref="taxon:694006"

/country="Laos"

gene <1..>374

/gene="RdRp"

CDS <1..>374

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88247"

/translation="CDRAMPNLLRIFASLILARKHATCCNASERFYRLANCAQVLSE

MVLCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQEL

QRRLYLGIIYRSNTVDNELVLDY"

ORIGIN

1 atgtgataga gctatgccta attgttgcg tatattgcc agtcttatt tagctcgtaa  
61 gcatgcaact tgttgaatg cctctgagag atttatagg ttggctaatg aatgcgcgca  
121 ggttttgagt gagatggtc tttgtgagg agggtttac gtgaaacctg gtggtaccag  
181 tagtggagat tcacaactg catatgctaa cagtgtttc aacatctgtc aagetgttag  
241 tgctaatctt aataccttt tatctataga cgtaataag atttacacca cctatgtgca  
301 ggaactgcag aggcgggtat acttgggtat ataccgtagt aacactgtgg ataagagtt  
361 agttctggat tatt

//

LOCUS MN312628 379 bp RNA linear VRL 07-NOV-2019

DEFINITION Roussetus bat coronavirus HKU9 isolate 7585 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312628

VERSION MN312628

KEYWORDS .

SOURCE Roussetus bat coronavirus HKU9

ORGANISM Roussetus bat coronavirus HKU9

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Nobecovirus.

REFERENCE 1 (bases 1 to 379)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 379)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..379  
/organism="Rousettus bat coronavirus HKU9"  
/mol\_type="genomic RNA"  
/isolate="7585"  
/host="Rousettus sp."  
/db\_xref="taxon:694006"  
/country="Laos"  
gene <1..>379  
/gene="RdRp"  
CDS <1..>379  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88248"  
/translation="CDRAMPNLLRIFASLILARKHATCCNASERFYRLANCAQVLSE  
MVLCCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQEL  
QRRLYLGIIYRSNTVDNELVLDYIT"

ORIGIN

1 atgtgataga gctatgccta atttattgcg tatattgct agccttatt tagctcgtaa  
61 gcacgcaact tgttgcaatg cctctgagag atttatagg ttggctaag aatgcgcgca  
121 ggttttgagt gagatgggcc tctgtggagg agggttttac gtgaaacctg gtggtaccag  
181 tagtggagat tccacaactg catatgctaa tagtgtttt aacattgtc aagctgttag  
241 tgctaactt aataccttt tatctataga cggtataag atttacacca cttatgtgca  
301 ggaattacag aggcgtttat acttgggtat ataccgtag aatactgtgg ataagagtt  
361 agttctggat tataatact

//

LOCUS MN312629 374 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rousettus bat coronavirus HKU9 isolate 7587 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312629

VERSION MN312629

KEYWORDS .

SOURCE Rousettus bat coronavirus HKU9

ORGANISM Rousettus bat coronavirus HKU9

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Nobecovirus.

REFERENCE 1 (bases 1 to 374)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 374)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..374

/organism="Rousettus bat coronavirus HKU9"

/mol\_type="genomic RNA"

/isolate="7587"

/host="Rousettus sp."

/db\_xref="taxon:694006"

/country="Laos"

gene <1..>374

/gene="RdRp"

CDS <1..>374

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88249"

/translation="CDRAMPNLLRIFASLILARKHATCCNASERFYRLANECAQVLSE

MVLCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQEL

QRRLYLGIIYRSNTVDNELVLDY"

ORIGIN

1 atgtgataga gctatgccta atttgttgcg tatattgcc agccttatt tagctcgtaa  
61 gcatgcaact tgttgaatg cctctgagag atttatagg ttggctaatg aatgcgcgca  
121 ggttttgagt gagatgtcc tctgtggagg agggttttac gtgaaacctg gtggtaccag  
181 tagtggagat tcacaactg catatgcaa cagtgtttt aacatctgtc aagctgttag  
241 tgctaatctt aataccttt tatctataga cgtaataag atttacacca cctatgtgca  
301 ggaactgcag aggcggttat acttgggtat ataccgtagt aacactgtgg ataatgagtt  
361 agttctggat tatt

//

LOCUS MN312630 372 bp RNA linear VRL 07-NOV-2019

DEFINITION Rousettus bat coronavirus HKU9 isolate 7588 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312630

VERSION MN312630

KEYWORDS .

SOURCE Rousettus bat coronavirus HKU9

ORGANISM Rousettus bat coronavirus HKU9

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Nobecovirus.

REFERENCE 1 (bases 1 to 372)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 372)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
source            1..372  
                  /organism="Rousettus bat coronavirus HKU9"  
                  /mol\_type="genomic RNA"  
                  /isolate="7588"  
                  /host="Rousettus sp."  
                  /db\_xref="taxon:694006"  
                  /country="Laos"  
gene              <1..>372  
                  /gene="RdRp"  
CDS                <1..>372  
                  /gene="RdRp"  
                  /codon\_start=2  
                  /product="RNA-dependent RNA polymerase"  
                  /protein\_id="QGA88250"  
                  /translation="CDRAMPNLLRIFASLILARKHSTCCNASERFYRLANCAQVLSE  
                  MVLCCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSVDGNKIYTTYVQEL  
                  QRRLYLGIIYRSNTVDNDLVLD"

ORIGIN

1 atgtgataga gctatgcca acctttgcg catctttgct agccttatat tagctcgtaa  
61 gcattcaact tgttgaatg cgtctgagcg gttttatagg ctggctaata aatgtgcgca  
121 ggttttgagt gaaatgtcc tctgcggagg tgggttttac gtaaagcctg gtggtagtag  
181 tagtggtgat tccactactg cttatgctaa cagtgtttt aacatctgtc aagcagtag  
241 tgtaacctt aatacatcc tttctgtgga tgtaataag attacacta cttatgtaca  
301 agaattgcag cggcggttat acttaggtat ataccgtagt aatacagtg acaatgatt  
361 ggtttggat ta

//

LOCUS    MN312631            378 bp    RNA    linear    VRL 07-NOV-2019  
DEFINITION    Rousettus bat coronavirus HKU9 isolate 7590 RNA-dependent RNA  
                  polymerase (RdRp) gene, partial cds.

ACCESSION    MN312631

VERSION      MN312631

KEYWORDS     .

SOURCE        Rousettus bat coronavirus HKU9

ORGANISM      Rousettus bat coronavirus HKU9

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Nobecovirus.

REFERENCE    1 (bases 1 to 378)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Origin and cross-species transmission of bat coronaviruses in China

JOURNAL       Unpublished

REFERENCE    2 (bases 1 to 378)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Direct Submission

JOURNAL       Submitted (13-AUG-2019) Key laboratory of special pathogens and  
                  biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
                  Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

source            1..378  
                  /organism="Rousettus bat coronavirus HKU9"  
                  /mol\_type="genomic RNA"

/isolate="7590"  
/host="Rousettus sp."  
/db\_xref="taxon:694006"  
/country="Laos"  
gene <1..>378  
/gene="RdRp"  
CDS <1..>378  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88251"  
/translation="CDRAMPNLLRIFASLILARKHATCCNASERFYRLANECAQVLSE  
MVLCCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQEL  
QRRLYLGIIYRSNTVDNELVLDYYN"

ORIGIN

1 tgtgatagag ctatgcctaa tttgttgcgt atatttgcca gccttatttt agctcgtaag  
61 catgcaactt gttgcaatgc ctctgagaga ttttataggt tggctaata atgcgcgcag  
121 gttttgagtg agatggttct ctgtggagga gggttttacg tgaacctgg tggtagcagt  
181 agtggagatt ccacaactgc atatgctaac agtgtttca acatctgtca agctgttagt  
241 gctaatactta atacctttt atctatagac ggtaataaga ttacaccac ctatgtgcag  
301 gaactgcaga ggcgggtata cttgggtata taccgtagta aactgtgga taatgagta  
361 gttctggatt attataac

//

LOCUS MN312632 566 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 7905 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312632

VERSION MN312632

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 566)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 566)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..566  
/organism="Bat betacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="7905"  
/host="Rhinolophus sp."  
/db\_xref="taxon:1805463"  
/country="China"

gene <1..>566



CDS /gene="RdRp"  
<1..>566  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88252"  
/translation="MASLVLARKHTTCCSLSHRFYRLANECAQVLSEMVMCGGSLYVK  
PGGTSSGDATTAYANSVFNICQAITANVNALLSTDGNKIADKYIRNLQHRLYECLYRN  
RDVDIDFVNEFYAYLRKHFSMMILSDDAVVCFNSTYASQGLVASIKNFKSVLYYQNNV  
FMSEAKCWTETDLTKGPHEFCSQHTMMI"

ORIGIN

1 tatggcctca cttgttcttg ctcgcaaaaca tacgacttgt thtagcttgt cgcaccggtt  
61 ctataggtta gtaacagagt gtcacaagt attaagttaa atgggtatgt gtggcggttc  
121 actatatgtt aaaccagggtg gaacctcadc aggagatgcc acaactgctt atgctaatag  
181 tgtctttaat atctgtcaag ctattacggc aatgttaat gcactttat ctactgatgg  
241 taacaaaatt gctgataaat acattcgcaa ttgcaacat agactttatg agtgtctcta  
301 taggaataga gatgtgaca tagactttgt gaatgagttt tacgcatatt tgcgtaaaca  
361 ctctcaatg atgatactct ctgacgatgc tgtcgtgtgt ttaatagca cctacgcgctc  
421 tcaaggttta gtggctagca taaagaactt taagtcagtt ctttattacc aaaataatgt  
481 tttatgtct gaagcaaaat getggactga gactgacctt actaaaggac ctcatgaatt  
541 ttgctctcaa catactatga tgattc

//

LOCUS MN312633 597 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 7907 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312633

VERSION MN312633

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 597)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 597)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..597  
/organism="Bat betacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="7907"  
/host="Rhinolophus sp."  
/db\_xref="taxon:1805463"  
/country="China"  
gene <1..>597  
/gene="RdRp"

CDS <1..>597  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88253"  
/translation="CDRAMPNMLRIMASLVLARKHTTCCSLSHRFYRLANECAQVLSE  
MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAITANVNALLSTDGNKIADKYIRNL  
QHRLYECLYRNRDVIDIDFVNEFYAYLRKHFSMMILSDDAVVCFNSTYASQGLVASIKN  
FKSVLYYQNNVFMSEAKCWTETDLTKGPHEFCSQHTMMI"

ORIGIN

1 tgtgacagag ccatgcctaa tatgcttaga attatggcct cacttgttct tgctcgcaaa  
61 catacgactt gttgtagctt gtgcaccgt ttctataggt tagctaacga gtgtgcacaa  
121 gtattaagtg aaatggttat gtgtggcggg tcaactatg ttaaaccagg tggaaacctca  
181 tcaggagatg ccacaactgc ttatgctaata agtgccttta atatctgtca agctattacg  
241 gcaaatgtta atgcactttt atctactgat ggtaacaaaa ttgctgataa atacattegc  
301 aatttgcaac atagacttta tgagtgtctc tataggaata gagatgttga catagacttt  
361 gtgaatgagt ttacgcata ttgcgtaaa cacttctcaa tgatgatact ctctgacgat  
421 gctgtcgtgt gtttaaatg cacctacgcg tctcaaggtt tagtggctag cataaagaac  
481 ttaagtacg ttctttatta ccaaataat gttttatgt ctgaagcaaa atgctggact  
541 gagactgacc ttactaaagg acctcatgaa ttttgcctc aacatactat gatgatt

//

LOCUS MN312634 592 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 7909 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312634

VERSION MN312634

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 592)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 592)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..592  
/organism="Bat betacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="7909"  
/host="Rhinolophus affinis"  
/db\_xref="taxon:1805463"  
/country="China"

gene <1..>592  
/gene="RdRp"

CDS <1..>592

/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88254"  
/translation="RAMPNMLRIMASLVLARKHTTCCSLSHRFYRLANECAQVLSEMV  
MCGGSLYVKPGGTSSGDATTAYANSVFNICQAITANVNALLSTDGNGKIADKYIRNLQH  
RLYECLYRNRDVIDDFVNEFYAYLRKHFSMMILSDDAVVCFNSTYASQGLVASIKNFK  
SVLYYQNNVFMSEAKCWTETDLTKGPHEFCSQHTMMI"

#### ORIGIN

1 agagccatgc ctaatatgct tagaattatg gcctcacttg ttcttgctcg caaacatagc  
61 acttgttgta gcttgctgca ccgtttctat aggttagcta acgagtgtgc acaagtatta  
121 agtgaaatgg ttatgtgtgg cggttcacta tatgttaaac caggtggaac ctcacagga  
181 gatgccacaa ctgcttatgc taatagtgtc ttaatatct gtcaagctat tacggcaaat  
241 gtaatgcac tttatctac tgatggtaac aaaattgctg ataaatacat tcgcaattg  
301 caacatagac tttatgagtg tctctatagg aatagagatg ttgacataga cttgtggaat  
361 gagttttacg catatttgcg taaacacttc tcaatgatga tactctctga cgatgctgtc  
421 gtgtgttta atagcaccta cgcgtctcaa ggtttagtgg ctagcataaa gaactttaag  
481 tcagttctt attacaaaa taatgtttt atgtctgaag caaaatgctg gactgagact  
541 gaccttacta aaggacctca tgaatttgc tctcaacata ctatgatgat tc

//

LOCUS MN312635 588 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 7921 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312635

VERSION MN312635

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 588)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 588)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..588  
/organism="Bat betacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="7921"  
/host="Rhinolophus sp."  
/db\_xref="taxon:1805463"  
/country="China"  
gene <1..>588  
/gene="RdRp"  
CDS <1..>588  
/gene="RdRp"

/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88255"  
/translation="AMPNMLRIMASLV LARKHTTCCSLSHRFYRLANECAQVLSEMVM  
CGGSLYVKPGGTSSGDATTAYANSVFNICQAITANVNALLSTDGDKIADKYIRNLQHR  
LYECLYRNRDVIDDFVNEFYAYLRKHFSMMILSDDAVVCFNSTYASQGLVASIKNFKS  
VLYYQNNVFMSEAKCWTETDLTKGPHEFCSQHTMMI"

ORIGIN

1 gccatgccta atatgcttag aattatggcc tcaattgttc ttgctcgcaa acatacgact  
61 tgtttagct tgcgcaccg tttctatagg ttagctaacg agtgtgcaca agtattaagt  
121 gaaatggta tgtgtgccc ttcactatat gtaaaccag gtggaacctc atcaggagat  
181 gccacaactg cttatgctaa tagtgtcttt aatatctgtc aagctattac ggcaaatgtt  
241 aatgcacttt tatctactga tggtaacaaa attgctgata aatacattcg caatttgc  
301 catagacttt atgagtgtct ctataggaat agagatgttg acatagactt tgtgaatgag  
361 ttttagcat atttgcgtaa acacttctca atgatgatac tctctgacga tctgtctgtg  
421 tgtttaata gcacctacgc gtctcaaggt ttagtggtca gcataaagaa cttaagtca  
481 gttctttatt accaaaataa tgttttatg tctgaagcaa aatgctggac tgagactgac  
541 ctactaaag gacctcatga atttgctct caacatacta tgatgatt

//  
LOCUS MN312636 589 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 7924 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312636

VERSION MN312636

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 589)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 589)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..589  
/organism="Bat betacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="7924"  
/host="Rhinolophus sp."  
/db\_xref="taxon:1805463"  
/country="China"  
gene <1..>589  
/gene="RdRp"  
CDS <1..>589  
/gene="RdRp"  
/codon\_start=1

/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88256"  
/translation="RAMPNMLRIMASLVLARKHTTCCSLSHRFYRLANCAQVLSEMV  
MCGGSLYVKPGGTSSGDATTAYANSVFNICQAITANVNALLSTDGNKIADKYIRNLQH  
RLYECLYRNRDVIDDFVNEFYAYLRKHFSMMILSDDAVVCFNSTYASQGLVASIKNFK  
SVLYYQNNVFMSEAKCWTETDLTKGPHEFCSQHTMM"

ORIGIN

1 agagccatgc ctaatatget tagaattatg gcctcacttg ttcttgetcg caaacatagc  
61 acttggtgta gcttgctgca ccgtttctat aggttagcta acgagtgtgc acaagtatta  
121 agtgaatgg ttatgtgtgg cggttcacta tatgttaaac caggtggaac ctcacagga  
181 gatgccacaa ctgcttatgc taatagtgtc tttaatatct gtcaagctat tacggcaaat  
241 gtaatgcac tttatctac tgatggtaac aaaattgctg ataaatacat tcgcaatttg  
301 caacatagac ttatgagtg tctctatagg aatagagatg ttgacataga ctttgtgaat  
361 gagttttacg catattgctg taaacacttc tcaatgatga tactctctga cgatgctgtc  
421 gtgtgttta atagcaccta cgcgtctcaa ggtttagtgg ctagcataaa gaactttaag  
481 tcagttcttt attaccaaaa taatgtttt atgtctgaag caaatgctg gactgagact  
541 gaccttacta aaggacctca tgaattttgc tctcaacata ctatgatga

//

LOCUS MN312637 376 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 141335 RNA-dependent RNA

polymerase (RdRp) gene, partial cds.

ACCESSION MN312637

VERSION MN312637

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 376)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 376)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..376  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="141335"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>376  
/gene="RdRp"  
CDS <1..>376  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88257"  
/translation="CDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANCAQVLSE  
MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYIRNL  
QHRLYECLYRNRDVDHEFVDECM"

ORIGIN

1 tgtgatagag ccatgcctaa tatgcttaga atcatggcct cccttgttct tgctcgcaaa  
61 catagcactt gttgtaactt gtcacatcgt ttctatagat tagctaata ggtgcaaaa  
121 gtattaagt agatggcat ggtggcggc tcattatag tgaaccagg tggaacatca  
181 tccggtgatg ccacaactgc ttatgctaag agtgtgttta acatctgtca agcagtaaca  
241 gctaagttaa atgcacttct ctaactgat ggtaataaga ttgctgataa gtacatccgc  
301 aacctcaac atagacttta tgagtgtctc tatagaaata gagatgtaga tcatgagttc  
361 gtggatgaat gtagtc

//

LOCUS MN312638 359 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 141341 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312638

VERSION MN312638

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 359)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 359)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..359

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="141341"

/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>359

/gene="RdRp"

CDS <1..>359

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88258"

/translation="CDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANCAQVLSE

MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYIRNL

QHRLYECLYRNRDVDHE"

ORIGIN

1 aatgtgatag agccatgcct aatagctta gaatcatggc ttccttggt cttgctcgca  
61 aacatagcac ttgtgtaac ttgtcacatc gtttctatag attagctaag gagggtgcac  
121 aagtattaag tgagatgggc atgtgtggcg gctcattata tgtgaaacca ggtggaacat  
181 catccgggtga tgccacaact gcttatgcta atagtgtgtt taacatctgt caagcagtaa  
241 cagctaattg aatgcactt ctctcaactg atggtaataa gattgctgat aagtacatcc  
301 gcaaccttca acatagactt tatgagtgc tctatagaaa tagagatgta gatcatgag

//

LOCUS MN312639 346 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 141342 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312639

VERSION MN312639

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 346)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 346)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..346

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="141342"

/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>346

/gene="RdRp"

CDS <1..>346

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88259"

/translation="CDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANCAQVLSE

MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYIRNL

QHRLYECLYRNRD"

ORIGIN

1 atgtgataga gccatgccta atatgcttag aatcatggct tcccttggtc ttgctcgcaa  
61 acatagcact ttgtgtaact ttgtcacatc tttctataga ttagctaag agtgtgcaca  
121 agtattaagt gagatggca tgtgtggcgg ctattatat gtgaaaccag gtggaacatc  
181 atccgggtgat gccacaactg ctatgctaa tagtgtgtt aacatctgtc aagcagtaac  
241 agctaagtga aatgcacttc tctcaactga tggaataag attgctgata agtacctccg  
301 caaccttcaa catagacttt atgagtgtct ctatagaat agagat

//  
LOCUS MN312640 367 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 141344 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.  
ACCESSION MN312640  
VERSION MN312640  
KEYWORDS .  
SOURCE Bat SARS-like coronavirus  
ORGANISM Bat SARS-like coronavirus  
Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.  
REFERENCE 1 (bases 1 to 367)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 367)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers  
source 1..367  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="141344"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>367  
/gene="RdRp"  
CDS <1..>367  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88260"  
/translation="CDRAMPNMLRIMASLVLARKHSTCCNLSHRFYILANECAQVLSE  
MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGINKIADKYIRNL  
QHRLYECLYRNRDVDHEFV"

ORIGIN  
1 aatgtgatag agccatgcct aatatgetta gaatcatggc ttccttgtt cttgctcgca  
61 aacatagcac ttgttgtaac ttgtcacatc gtttctatat attagctaat gagggtgcac  
121 aagtattaag tgagatggtc atgtgtggcg gtcattata tgtgaaacca ggtggaacat  
181 catccgggta tgccacaact gcttatgcta atagtgtgtt taacatctgt caagcagtaa  
241 cagctaatgt aatgcactt ctctcaactg atggtaataa gattgctgat aagtacatcc  
301 gcaaccttca acatagactt tatgagtgc tctatagaaa tagagatgta gatcatgagt  
361 tcgtgga

//  
LOCUS MN312641 367 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 141350 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.  
ACCESSION MN312641



VERSION MN312641

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 367)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 367)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..367

/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="141350"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"  
/country="China"

gene <1..>367

/gene="RdRp"

CDS <1..>367

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88261"

/translation="CDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSE

MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYIRNL  
QHRLYECLYRNRDVEDHEFV"

ORIGIN

1 aatgtgatag agccatgcct aatagctta gaatcatggc ttccttggt cttgctcgca  
61 aacatagcac ttgttgtaac ttgtcacatc gtttctatag attagctaat gagtgtgcac  
121 aagtattaag tgatagggc atgtgtggcg gctcattata tgtgaaacca ggtggaacat  
181 catccggtga tgccacaact gcttatgcta atagtgtgtt taacatctgt caagcagtaa  
241 cagctaatgt aatgcactt ctctcaactg atggaataa gattgctgat aagtacatcc  
301 gcaaccttca acatagactt tatgagtgc tctatagaaa tagagatgta gatcatgagt  
361 tcgtgga

//

LOCUS MN312642 349 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 141352 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312642

VERSION MN312642

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 349)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 349)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..349

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="141352"

/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>349

/gene="RdRp"

CDS <1..>349

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88262"

/translation="KCDRAMPNMLRIMASLV LARKHSTCCNL SHRFYRLANECAQVLS

EMVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYIRN

LQHRLYECLYRNRD"

ORIGIN

1 aaatgtgata gagccatgcc taatatgctt agaatcatgg ctcccttgt tcttgcctgc  
61 aaacatagca ctgtgtgtaa cttgtcacat cgtttctata gattagctaa tgagtgtgca  
121 caagtattaa tgagatggt catgtgtggc ggctcattat atgtgaaacc agtggaaca  
181 tcacccgtg atgccacaac tgcttatgct aatagtgtgt ttaacatctg tcaagcagta  
241 acagctaataa taaatgcact tctctcaact gatggttaata agattgctga taagcatc  
301 cgcaaccttc aacatagact ttatgagtgt ctctatagaa atagagatg

//

LOCUS MN312643 362 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 141369 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312643

VERSION MN312643

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 362)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 362)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..362  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="141369"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>362  
/gene="RdRp"  
CDS <1..>362  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88263"  
/translation="CDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANCAQVLSE  
MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGDKIADKYIRNL  
QHRLYECLYRNRDVEDHEF"

ORIGIN

1 aatgtgatag agccatgcct aatatgetta gaatcatggc ttccttgtt cttgctcgca  
61 aacatagcac ttgtgtaac ttgtcacatc gtttctatag attagctaat gagggtgcac  
121 aagtattaag tgagatggtc atgtgtggcg gtcattata tgtgaaacca ggtggaacat  
181 catcgggtga tgccacaact gcttatgcta atagtgtgtt taacatctgt caagcagtaa  
241 cagctaattg aatgcactt ctctcaactg atggtaataa gattgctgat aagtacatcc  
301 gcaaccttca acatagactt tatgagtgc tctatagaaa tagagatgta gatcatgagt  
361 tc

//

LOCUS MN312644 362 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 141375 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312644

VERSION MN312644

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 362)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 362)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
source            1..362  
                  /organism="Bat SARS-like coronavirus"  
                  /mol\_type="genomic RNA"  
                  /isolate="141375"  
                  /host="Rhinolophus sinicus"  
                  /db\_xref="taxon:1508227"  
                  /country="China"  
gene             <1..>362  
                  /gene="RdRp"  
CDS              <1..>362  
                  /gene="RdRp"  
                  /codon\_start=1  
                  /product="RNA-dependent RNA polymerase"  
                  /protein\_id="QGA88264"  
                  /translation="KCDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLS  
EMVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYIRN  
LQHRLYECLYRNRDVDHE"

#### ORIGIN

1 aaatgtgaca gagccatgcc taatatgctt agaatcatgg cttcccttgt tcttgctcgc  
61 aaacatagca cttgttgtaa cttgtcacat cgtttctata gattagctaa tgagtgtgca  
121 caagtattaa gtgagatggt catgtgtggc ggctcattat atgtgaaacc agtggaaca  
181 tcatccggtg atgccacaac tgcttatgct aatagtgtgt ttaacatctg tcaagcagta  
241 acagctaataa taaatgcact tctctcaact gatggtaata agattgctga taagtacatc  
301 cgcaaccttc aacatagact ttatgagtgt ctctatagaa atagagatgt agatcatgag  
361 tt

//

LOCUS   MN312645            379 bp   RNA   linear   VRL 07-NOV-2019  
DEFINITION   Bat SARS-like coronavirus isolate 141376 RNA-dependent RNA  
                  polymerase (RdRp) gene, partial cds.

ACCESSION   MN312645

VERSION     MN312645

KEYWORDS    .

SOURCE     Bat SARS-like coronavirus

ORGANISM   Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE   1 (bases 1 to 379)

AUTHORS     Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE       Origin and cross-species transmission of bat coronaviruses in China

JOURNAL     Unpublished

REFERENCE   2 (bases 1 to 379)

AUTHORS     Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE       Direct Submission

JOURNAL     Submitted (13-AUG-2019) Key laboratory of special pathogens and  
                  biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
                  Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

source            1..379  
                  /organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"  
/isolate="141376"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>379  
/gene="RdRp"  
CDS <1..>379  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88265"  
/translation="KCDRAMPNMLRIMASLV LARKHSTCCNLSHRFYRLANECAQVLS  
EMVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYIRN  
LQHRLYECLYRNRDVDHEFVDEFM"

#### ORIGIN

1 aaatgtgata gagccatgcc taatatgctt agaatcatgg ctcccttgt tcttgctcgc  
61 aacatagca cttgtgtaa cttgtcacat cgtttctata gattagctaa tgagtgtgca  
121 caagtattaa tgagatggt catgtgtggc ggctcattat atgtgaaacc agtggaaca  
181 tcatcgggtg atgccacaac tgcttatgct aatagtgtgt ttaacatctg tcaagcagta  
241 acagctaataa taaatgcact tctctcaact gatggttaata agattgctga taagtacatc  
301 cgcaaccttc aacatagact ttatgagtgt ctctatagaa atagagatgt agatcatgag  
361 ttcgtggatg aatttatgc

//

LOCUS MN312646 376 bp RNA linear VRL 07-NOV-2019  
DEFINITION Pipistrellus bat coronavirus HKU5 isolate 141427 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312646

VERSION MN312646

KEYWORDS .

SOURCE Pipistrellus bat coronavirus HKU5

ORGANISM Pipistrellus bat coronavirus HKU5

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 376)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 376)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..376

/organism="Pipistrellus bat coronavirus HKU5"

/mol\_type="genomic RNA"

/isolate="141427"

/host="Pipistrellus abramus"

/db\_xref="taxon:694008"

/country="China"

gene <1..>376  
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CDS <1..>376  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88266"  
/translation="KCDRAMPNMCRIFASLILARKHSTCCTNIDRFYRLANCAQVLS  
EYVLCGGGYVVKPGGTSSGDATTA YANSVFNILQATTANVSALMGANGTIVDKEVKD  
MQFELYVNVYRKSQDPKFDVDRY"

ORIGIN

1 aaatgtgac gcgctatgcc caatatgtgt agaattttg cttctctcat attggetcgt  
61 aagcatagta cttgctgtac taatattgat agattttacc gcttagcaaa tgagtgcgct  
121 caagtgctta gtgagtatgt cctttgtggc ggtggttatt atgtcaaacc tgggtgaacc  
181 agtagcggcg atgcaaccac agcttagcgc aatagtgtat ttaacattct gcagcgaca  
241 actgcaaatg ttatgcaact tatggcgct aatggcaaca ccattgttga caaagaagt  
301 aaggacatgc agtttgagct gtatgtaaat gttacagaa agagccagcc tgatcctaa  
361 ttcgtggaca ggtatt

//

LOCUS MN312647 372 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat betacoronavirus isolate 141431 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312647

VERSION MN312647

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 372)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 372)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..372  
/organism="Bat betacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="141431"  
/host="Hypsugo sp."  
/db\_xref="taxon:1805463"  
/country="China"

gene <1..>372  
/gene="RdRp"

CDS <1..>372  
/gene="RdRp"  
/codon\_start=1

/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88267"  
/translation="CDRAMPNMCRIFASLILARKHGTCTTRDRFYRLANECAQVLSE  
YVLCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNKIVDKIIRDM  
QFDLYVNVYRNTTPDPKFVVDKY"

ORIGIN

1 tgtgatagag ctatgcctaa catgtgtagg attttgcac ctctaattct tgcacgcaag  
61 catggaactt gctgcactac tagagataga ttctaccgct tagctaata gtcgctcag  
121 gtactaagcg aatacgttct ctgtggcgga ggtattacg tcaaacctgg aggaaccagc  
181 agcggcgatg ccaccacagc ctatgccaat agtggtttta acattttgca ggcgacaacc  
241 gcaaatgta gtgcacttat ggggtgcta ggcaacaaaa ttgtgataa agagattagg  
301 gacatgcaat ttgatttga tgtcaatgtt tacaggaata ctactcctga tcctaaattt  
361 gtagataaat at

//

LOCUS MN312648 370 bp RNA linear VRL 07-NOV-2019  
DEFINITION Pipistrellus bat coronavirus HKU5 isolate 141441 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312648

VERSION MN312648

KEYWORDS .

SOURCE Pipistrellus bat coronavirus HKU5

ORGANISM Pipistrellus bat coronavirus HKU5

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..370

/organism="Pipistrellus bat coronavirus HKU5"  
/mol\_type="genomic RNA"  
/isolate="141441"  
/host="Pipistrellus abramus"  
/db\_xref="taxon:694008"  
/country="China"

gene <1..>370  
/gene="RdRp"

CDS <1..>370  
/gene="RdRp"  
/codon\_start=2

/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88268"  
/translation="DRAMPNMCRIFASLILARKHGTCTPTDRFYRLANECAQVLSEY  
VLCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNMIVDKIIRDMQ  
FELYVNVYRKSQDPKFVIAI"

ORIGIN

1 tgatagagct atgcctaata tgtgtagaat tttgcatct ctcatttgg ctcgtaagca  
61 tggtaactgt tgactccta ctgacagatt ttaccgctta gccaatgagt gcgctcaggt  
121 gcttagtgag tatgtcttgt gtgggtgggg ttattacgtc aaacctgggtg gaaccagtag  
181 cggcagatgca accactgctt acgccaatag tgttttaac atattgcaag cgacaactgc  
241 aaatgtagt gcacttatgg gcgctaaccg caacatgatt gttgacaaag aagttaagga  
301 catgcagttt gagctgtatg taaatgttta caggaaatcg caaccgcatc caaaattcgt  
361 gatcgtata

//

LOCUS MN312649 368 bp RNA linear VRL 07-NOV-2019

DEFINITION Pipistrellus bat coronavirus HKU5 isolate 141442 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312649

VERSION MN312649

KEYWORDS .

SOURCE Pipistrellus bat coronavirus HKU5

ORGANISM Pipistrellus bat coronavirus HKU5

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 368)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 368)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..368

/organism="Pipistrellus bat coronavirus HKU5"  
/mol\_type="genomic RNA"  
/isolate="141442"  
/host="Pipistrellus abramus"  
/db\_xref="taxon:694008"  
/country="China"

gene <1..>368

/gene="RdRp"

CDS <1..>368

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88269"

/translation="KCDRAMPNMCRIFASLILARKHSTCCTNTDRFYRLANCAQVLS

EYVLCGGGYVVKPGGTSSGDATTA YANSVFNILQATTANVSALMGANGNTIVDKEVKD

MQFELYVNVYRKSQDPKFFV"

ORIGIN

1 aaatgtgata gagctatgcc taatatgtgc agaattttg cttccctcat attagcccg  
61 aagcatagta cttgtgtac taacctgat agattttacc gcttagcaaa tgagtgcgct  
121 caagtgctta gtgagtatgt cctttgtgce ggtggttatt acgtcaaac ttgtgggacc  
181 agtagcggcg atgcaaccac agcttacgcc aatagtgtct ttaacattct gcaggcgaca



241 accgcaaatg ttagtgcact tatgggcgct aatggcaaca ctattgttga caaagaagtt  
301 aaggacatgc agtttgagct gtatgtaaat gttacagaa agagccaacc tgatcctaaa  
361 ttcgtgga

//

LOCUS MN312650 371 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 141455 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312650

VERSION MN312650

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 371)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 371)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..371

/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="141455"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"  
/country="China"

gene <1..>371

/gene="RdRp"

CDS <1..>371

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88270"

/translation="DRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSEM

VMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGDKIADKYVRNLQ

HRLYECLYRNRDVEDHEFVDEL"

ORIGIN

1 gtgatagagc catgctaac atgcttagga taatggcctc tctgttctt gctcgcaaac  
61 atagcacttg ctgtaacttg tcacaccgtt tctataggct agctaacgag tgtgcgcaag  
121 tgtaagtga gatggtcatg tgtggcgct cgctatatgt taaaccaggt ggaacatcat  
181 cgggtgatgc tacaactgct tatgctaata gtgtcttaa catttgcac gctgttacg  
241 ccaatgtaa tgcactctt tcaactgatg gtaataagat agctgacaag tatgtccgca  
301 atctacagca caggctctac gagtgtctct atagaaatag agatgttgat catgaattcg  
361 tggatgagtt a

//

LOCUS MN312651 366 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 141456 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312651

VERSION MN312651

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae; Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 366)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J., Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 366)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J., Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..366

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="141456"

/host="Rhinolophus sp."

/db\_xref="taxon:1508227"

/country="China"

gene <1..>366

/gene="RdRp"

CDS <1..>366

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88271"

/translation="DRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSEM  
VMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGDKIADKYVRNLQ  
HRLYECLYRNRDVEDHEFVDE"

ORIGIN

1 gatagagcca tgcctaacaat gcttaggata atggcctctc ttgttcttgc tcgcaaacat  
61 agcacttgct gtaacttgc acaccgttc tataggctag ctaacgagtg tgcgcaagtg  
121 ttaagtgaga tggctatgtg tggcggctcg ctatatgtta aaccaggtgg aacatcatcg  
181 ggtgatgcta caactgctta tgctaatagt gtctttaaca tttgtcaagc tgttacagcc  
241 aatgtaaagc cactcttctc aactgatggt aataagatag ctgacaagta tgcgccaat  
301 ctacagcaca ggctctacga gtgtctctat agaaatagag atgttgatca tgaattcgtg  
361 gatgag

//

LOCUS MN312652 327 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 141460 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312652

VERSION MN312652

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 327)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 327)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..327

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="141460"

/host="Rhinolophus pusillus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>327

/gene="RdRp"

CDS <1..>327

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88272"

/translation="CDRAMPNMLRIMASLV LARKHSTCCNLSHRFYRLANECAQVLSE

MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYIRNL

QHRLYEC"

ORIGIN

1 tgtgatagag ccatgctaa tatgcttaga atcatggctt ccctgttct tgetcgcaa  
61 catagcactt gttgtaact gtacatcgt ttctatagat tagctaatga ggtgcacaa  
121 gtattaagt agatggcat ggtggcggc tcattatag tgaaccagg tggaaatca  
181 tccggtgat ccacaactgc ttatgctaat agtgtgttta acatctgtca agcagtaaca  
241 gctaatgtaa atgcacttct ctaactgat ggtaataaga ttgctgataa gtacatccgc  
301 aacctcaac atagacttta tgagtgt

//

LOCUS MN312653 374 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 141464 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312653

VERSION MN312653

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 374)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 374)  
AUTHORS Latinne, A., Hu, B., Zhu, G., Zhang, L., Olival, K. J.,  
Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..374  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="141464"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>374  
/gene="RdRp"  
CDS <1..>374  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88273"  
/translation="DYPKCDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANCAQ  
VLSEMVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKY  
VRNLQHRLYECLYRNRDGDHEF"

#### ORIGIN

1 tgattatcca aaatgtgata gagccatgcc taacatgctt aggataatgg cctctctgt  
61 tcttgctcgc aaacatagca cttgctgtaa cttgctcacac cgtttctata ggctagctaa  
121 cgagtgtgcg caagtgttaa gtgagatggt catgtgtggc ggctcgctat atgttaaacc  
181 aggtggaaca tcacgggtg atgctacaac tgcttatgct aatagtgtct ttaacattg  
241 tcaagctgtt acagccaatg taaatgcaact tcttcaact gatggttaata agatagctga  
301 caagtatgtc cgcaatctac agcacaggct ctacgagtgt ctctatagaa atagagatgg  
361 tgatcatgaa ttgc

//

LOCUS MN312654 364 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 141470 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312654

VERSION MN312654

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 364)

AUTHORS Latinne, A., Hu, B., Zhu, G., Zhang, L., Olival, K. J.,

Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 364)

AUTHORS Latinne, A., Hu, B., Zhu, G., Zhang, L., Olival, K. J.,

Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..364

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="141470"

/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>364

/gene="RdRp"

CDS <1..>364

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88274"

/translation="KCDRAMPNMLRIMASLV LARKHSTCCNLSHRFYRLANECAQVLS

EMVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRN

LQHRLYECLYRNRDVDHEF"

ORIGIN

1 aaatgtgata gagccatgcc taacatgctt aggataatgg cctctctgt tcttgctcgc  
61 aaacatagca cttgctgtaa cttgtcacac cgtttctata ggctagctaa cgagtgtgcg  
121 caagtgttaa gtgagatggt catgtgtggc ggctcgtat atgttaaacc agtggaaca  
181 tcateggtg atgctacaac tgcttatgct aatagtgtct ttaacattg tcaagctgt  
241 acagccaatg taaatgcact tcttcaact gatggaata agatagctga caagtatgc  
301 cgcaatctac agcacagct ctacgagtgt ctctatagaa atagagatgt tgatcatgaa  
361 ttcg

//

LOCUS MN312655 370 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 141567 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312655

VERSION MN312655

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 370)

AUTHORS Latinne, A., Hu, B., Zhu, G., Zhang, L., Olival, K. J.,

Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 370)

AUTHORS Latinne, A., Hu, B., Zhu, G., Zhang, L., Olival, K. J.,

Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
 source            1..370  
                   /organism="Bat SARS-like coronavirus"  
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                   /isolate="141567"  
                   /host="Rhinolophus sp."  
                   /db\_xref="taxon:1508227"  
                   /country="China"  
 gene              <1..>370  
                   /gene="RdRp"  
 CDS                <1..>370  
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                   /codon\_start=2  
                   /product="RNA-dependent RNA polymerase"  
                   /protein\_id="QGA88275"  
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 MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGDKIADKYVRNL  
 QHRLYECLYRNRDVEDHEFVDE"

ORIGIN

1 atgtgataga gccatgcta acatgcttag gataatggcc tctctgttc ttgctcgcaa  
 61 acatagcact tgctgtaact tgcacaccg ttctatagg ctgctaacc agtgtgcgca  
 121 agtgttaagt gagatggta tgtgtggcgg ctcgctatat gttaaaccag gtggaacatc  
 181 atcgggtgat gctacaactg cttatgctaa tagtgtctt aacattgtc aagctgttac  
 241 agccaatgta aatgcacttc ttcaactga tgtaataag atagctgaca agtatgtccg  
 301 caatctacag cacaggctct acgagtgtct ctatagaaat agagatgttg atcatgaatt  
 361 cgtggatgag

//

LOCUS    MN312656            382 bp    RNA    linear    VRL 07-NOV-2019  
 DEFINITION    Bat SARS-like coronavirus isolate 141569 RNA-dependent RNA  
                   polymerase (RdRp) gene, partial cds.

ACCESSION    MN312656

VERSION     MN312656

KEYWORDS    .

SOURCE     Bat SARS-like coronavirus

ORGANISM    Bat SARS-like coronavirus

              Viruses; Riboviria; Nidovirales; Coronaviridae;  
               Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE    1 (bases 1 to 382)

AUTHORS     Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
               Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE        Origin and cross-species transmission of bat coronaviruses in China

JOURNAL     Unpublished

REFERENCE    2 (bases 1 to 382)

AUTHORS     Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
               Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE        Direct Submission

JOURNAL     Submitted (13-AUG-2019) Key laboratory of special pathogens and  
               biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
               Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

source            1..382  
                   /organism="Bat SARS-like coronavirus"  
                   /mol\_type="genomic RNA"  
                   /isolate="141569"

/host="Rhinolophus pusillus"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>382  
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CDS <1..>382  
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/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88276"  
/translation="DYPKCDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQ  
VLSEMVCMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKY  
VRNLQHRLYECLYRNRDVDHEFVDE"

#### ORIGIN

1 tgattatcct aatgtgata gagccatgcc taacatgctt aggataatgg cctctctgt  
61 tcttgctcgc aaacatagca cttgctgtaa cttgtcacac cgtttctata ggctggctaa  
121 cgagtgtgcg caagtgttaa gtgagatggt catgtgtggc ggctcgctat atgttaaacc  
181 aggtggaaca tcatcgggtg atgtacaac tgcttatgct aatagtgtct ttaacattg  
241 tcaagctgtt acagccaatg taaatgcaact tcttcaact gatggaata agatagctga  
301 caagtatgtc cgcaatctac agcacaggct ctacgagtgt ctctatagaa atagagatgt  
361 tgatcatgaa ttcgtggatg ag

//

LOCUS MN312657 384 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 141570 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312657

VERSION MN312657

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 384)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 384)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..384  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="141570"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>384  
/gene="RdRp"

CDS <1..>384  
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/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88277"  
/translation="DYPKCDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQ  
VLSEMVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKC  
VRNLQHRLYECLYRNRDVEDHEFVDE"

ORIGIN

1 ttgattatcc aaaatgtgat agagccatgc ctaacatgct taggataatg gcctctcttg  
61 ttcttgctcg caaacatagc acttgctgta actgtgcaca cgtttctat aggctagcta  
121 acgagtgtgc gcaagtgtta agtgagatgg tcatgtgtgg cggtcgcgta tatgttaaac  
181 caggtggaac atcatcgggt gatgctacaa ctgcttatgc taatagtgtc ttaacattt  
241 gtcaagctgt tacagccaat gtaaatgcac tctttcaac tgatggtaat aagatagctg  
301 acaagtgtgt cgcgaatcta cagcacaggc tctacagtg tctctataga aatagagatg  
361 ttgatcatga attcgtggat gagt

//

LOCUS MN312658 370 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 141575 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312658

VERSION MN312658

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..370  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="141575"  
/host="Hipposideros pomona"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>370  
/gene="RdRp"  
CDS <1..>370  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88278"



/translation="CDRAMPNMLRIMASLV LARKHSTCCNLSHRFYRLANCAQVLSE  
MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNL  
QHRLYECLYRNRDVDHEFVDE"

ORIGIN

1 atgtgataga gccatgccta acatgcttag gataatggcc tctctgttc ttgctcgsaa  
61 acatagcact tgctgtaact tgcacaccg ttctatagg ctgctaacc agtgtgcgca  
121 agtgtaagt gagatggca tgtgtggcgg ctcgctatat gttaaaccag gtggaacatc  
181 atcgggtgat gctacaactg cttatgctaa tagtgtcttt aacattgtc aagctgttac  
241 agccaatgta aatgcactc ttcaactga tggaataag atagctgaca agtatgtccg  
301 caatctacag cacaggctct acgagtgtct ctatagaaat agagatgttg atcatgaatt  
361 cgtggatgag

//

LOCUS MN312659 383 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 141577 RNA-dependent RNA

polymerase (RdRp) gene, partial cds.

ACCESSION MN312659

VERSION MN312659

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 383)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 383)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..383

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="141577"

/host="Hipposideros pomona"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>383

/gene="RdRp"

CDS <1..>383

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88279"

/translation="IIPKCDRAVPNMLRIMASLV LARKHSTCCNLSHRFYRLANCAQ

VLSEMVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKY  
VRNLQHRLYECLYRNRDVDHEFVDG"

ORIGIN

1 tgattatccc taaatgtgat agagccgtgc ctaacatgct taggataatg gcctctcttg

61 ttcttgctcg caaacatagc acttgctgta actgtcaca ccgtttctat aggctagcta  
121 acgagtgtgc gcaagtgtta agtgagatgg tcatgtgtgg cggctcgcta tatgttaaac  
181 caggtggaac atcatcggtg gacgctacaa ctgcttatgc taatagtgc tttacattt  
241 gtcaagctgt tacagccaat gtaaagcac ttcttcaac tgatggtaat aagatagctg  
301 acaagtatgt ccgcaatcta cagcacaggc tctacgagtg tctctataga aatagagatg  
361 ttgatcatga atcgtggat ggg

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LOCUS MN312660 383 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 141579 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312660

VERSION MN312660

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 383)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 383)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..383  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="141579"  
/host="Rhinolophus pusillus"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>383  
/gene="RdRp"  
CDS <1..>383  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88280"  
/translation="IIPKCDRAMPNMLRIMASLV LARKHSTCCNLSHRFYRLANCAQ  
VLSEMVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKY  
VRNLQHRLYECLYRNRDVDHEFVDE"

ORIGIN

1 tgattatccc caaatgtgat agagccatgc ctaacatgct taggataatg gcctctcttg  
61 ttcttgctcg caaacatagc acttgctgta actgtcaca ccgtttctat aggctagcta  
121 acgagtgtgc gcaagtgtta agtgagatgg tcatgtgtgg cggctcgcta tatgttaaac  
181 caggtggaac atcatcggtg gatgctacaa ctgcttatgc taatagtgc tttacattt  
241 gtcaagctgt tacagccaat gtaaagcac ttcttcaac tgatggtaat aagatagctg  
301 acaagtatgt ccgcaatcta cagcacaggc tctacgagtg tctctataga aatagagatg

361 ttgatcatga attcgtggat gag  
//  
LOCUS MN312661 382 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 141582 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.  
ACCESSION MN312661  
VERSION MN312661  
KEYWORDS .  
SOURCE Bat SARS-like coronavirus  
ORGANISM Bat SARS-like coronavirus  
Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.  
REFERENCE 1 (bases 1 to 382)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 382)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..382  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="141582"  
/host="Hipposideros pomona"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>382  
/gene="RdRp"  
CDS <1..>382  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88281"  
/translation="DYPKCDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANCAQ  
VLSEMVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKY  
VRNLQHRLYECLYRNRDVEDHEFVDE"

#### ORIGIN

1 tgattatcct aaatgtgata gagccatgcc taacatgctt aggataatgg cctctcttgt  
61 tcttgcctgc aaacatagca cttgctgtaa cttgtcacac cgtttctata ggctagctaa  
121 cgagtgtgcg caagtgttaa gtgagatggc catgtgtggc ggctcgctat atgttaaacc  
181 aggtggaaca tcacgggtg atgctacaac tgcttatgct aatagtgtct ttaacattg  
241 tcaagctgtt acagccaatg taaatgcact tcttcaact gatggtaata agatagctga  
301 caagtatgtc cgcaatctac agcacaggct ctacgagtgt ctctatagaa atagatgtg  
361 tgatcatgaa ttcgtggatg ag

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LOCUS MN312662 373 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 141598 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312662

VERSION MN312662

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 373)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 373)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..373

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="141598"

/host="Rhinolophus pusillus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>373

/gene="RdRp"

CDS <1..>373

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88282"

/translation="CDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANCAQVLSE

MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNL

QHRLYECLYRNRDVDHEFVDE"

ORIGIN

1 aatgtgatag agccatgcct aacatgctta ggataatggc ctctcttgtt cttgctgca  
61 aacatagcac ttgctgtaac ttgtcacacc gttctatag gctagctaac gtagtgcgcg  
121 aagtgttaag ttagatggtc atgtgtggcg gctcgctata tgtaaacca ggtggaacat  
181 catcgggtga tgctacaact gcttatgcta atagtgtctt taacattgt caagctgta  
241 cagccaatgt aatgcaact cttcaactg atggaataa gatagctgac aagtatgtcc  
301 gcaactaca gcacaggtc tacgagtgtc tctatagaaa tagagatgtt gatcatgaat  
361 tcgtgatga gtt

//

LOCUS MN312663 370 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 141599 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312663

VERSION MN312663

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 370)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..370  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="141599"  
/host="Rhinolophus pusillus"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>370  
/gene="RdRp"  
CDS <1..>370  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88283"  
/translation="CDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANCAQVLSE  
MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGDKIADKYVRNL  
QHRLYECLYRNRDVEDHEFVD"

ORIGIN

1 aatgtgatag agccatgcct aacatgctta ggataatggc ctctcttgtt cttgctcgca  
61 aacatagcac ttgctgtaac ttgtcacacc gttctatag gctagctaac gagtgtgcgc  
121 aagtgttaag tgataggttc atgtgtggcg gctcgctata tgtaaacca ggtggaacat  
181 catcgggtga tgctacaact gcttatgcta atagtgtctt taacattgt caagctgta  
241 cagccaatgt aaatgcactt cttcaactg atggaataa gatagctgac aagtatgtcc  
301 gcaatctaca gcacaggctc tacgagtgc tctatagaaa tagagatgtt gatcatgaat  
361 tcgtggatga

//

LOCUS MN312664 382 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 141600 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312664

VERSION MN312664

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 382)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 382)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..382

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="141600"

/host="Rhinolophus pusillus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>382

/gene="RdRp"

CDS <1..>382

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88284"

/translation="DYPKCDRAMPNMLRIMASLVLARRHSTCCNLSHRFYRLANCAQ  
VLSEMVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKY  
VRNLQHRLYECLYRNRDVEDHEFVDE"

ORIGIN

1 tgattatcct aatgtgata gagccatgcc taacatgctt aggataatgg cctctctgt  
61 tcttgctcgc agacatagca cttgctgtaa cttgtcacac cgtttctata ggctagctaa  
121 cgagtgtgcg caagtgttaa gtgagatggt catgtgtggc ggctcgctat atgttaaacc  
181 aggtggaaca tcatcggtg atgctacaac tgcttatgct aatagtgtct ttaacattg  
241 tcaagctgtt acagccaatg taaatgcaact tcttcaact gatggaata agatagctga  
301 caagtatgtc cgcaatctac agcacaggct ctacgagtgt ctctatagaa atagagatgt  
361 tgatcatgaa ttcgtgatg ag

//

LOCUS MN312665 408 bp RNA linear VRL 07-NOV-2019

DEFINITION Pipistrellus bat coronavirus HKU5 isolate 2014Bat01 RNA-dependent  
RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312665

VERSION MN312665

KEYWORDS .

SOURCE Pipistrellus bat coronavirus HKU5

ORGANISM Pipistrellus bat coronavirus HKU5

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..408  
/organism="Pipistrellus bat coronavirus HKU5"  
/mol\_type="genomic RNA"  
/isolate="2014Bat01"  
/host="Pipistrellus abramus"  
/db\_xref="taxon:694008"  
/country="China"  
gene <1..>408  
/gene="RdRp"  
CDS <1..>408  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88285"  
/translation="CDRAMPNMCRIFASLILARKHSTCCTNTDRFYRLANCAQVLSE  
YVLCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNTIVDKVVKDM  
QFELYVNVYRKSQDPKFDVDRYYAFLNKHFSMMI"

ORIGIN

1 tgtgatagag cgatgcctaa tatgtgtaga attttgctt ctctcatatt ggctcgtaa  
61 catagtactt gttgtactaa tactgataga tttaccgct tagcaaatga gtgcgctcaa  
121 gtgcttagtg agtatgtcct ctgtggcggg ggttattacg tcaaacctgg tgggaccagt  
181 agcggcgatg caaccacagc ttacgccaat agtgtctta acattctgca ggcgacaact  
241 gcaaatgta gtgcacttat gggcgctaat ggcaacacta ttgtgacaa agaagttaag  
301 gacatgcagt ttgagctgta tgtaaatgtt tacagaaaga gccaacctga tcctaaatt  
361 gtggataggt attatgcctt tctgaataag cacttttcta tgatgatt

//

LOCUS MN312666 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rousettus bat coronavirus HKU9 isolate 7544-1 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312666

VERSION MN312666

KEYWORDS .

SOURCE Rousettus bat coronavirus HKU9

ORGANISM Rousettus bat coronavirus HKU9

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Nobecovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402  
/organism="Rousettus bat coronavirus HKU9"  
/mol\_type="genomic RNA"  
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/host="Eonycteris spelaea"  
/db\_xref="taxon:694006"  
/country="Laos"  
gene <1..>402  
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CDS <1..>402  
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/product="RNA-dependent RNA polymerase"  
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LCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQELQR  
RLYLGIIYRSNTVDNELVLDYYNYLRKHFSMMI"

#### ORIGIN

1 agagctatgc ctaatttatt gcgtatatt gccagcctta ttttagctcg taagcatgca  
61 acttgttgc atgcctctga gagttttat aggttggtca atgaatgcgc tcaggttctg  
121 agtgaatgg tcctctgtgg aggagggtt tacgtgaaac ctggtgttac tagtagtgga  
181 gattccacaa ctgcatatgc taacagtgtt ttaacattt gtcaagctgt tagtgctaat  
241 ctaataacct tttatctat agatggtaat aagatttaca ctacttatgt tcaggaactg  
301 cagaggcggg tataactggg tatttaccgt agtaacactg tggataatga gttagtttta  
361 gattattata actatttgcg taagcatttt agtatgatga tt

//

LOCUS MN312667 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat coronavirus GCCDC1 isolate 7544-2 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312667

VERSION MN312667

KEYWORDS .

SOURCE Bat coronavirus GCCDC1

ORGANISM Bat coronavirus GCCDC1

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402  
/organism="Bat coronavirus GCCDC1"  
/mol\_type="genomic RNA"  
/isolate="7544-2"  
/host="Eonycteris spelaea"



/db\_xref="taxon:2126098"  
/country="Laos"  
gene <1..>402  
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CDS <1..>402  
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/product="RNA-dependent RNA polymerase"  
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/translation="RAMPNLLRIFASLILARKHSTCCNTSERFYRLANECAQVLSEIV  
LCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSRDGNKIYNSYVQGLQR  
RLYLGIIYRTHTVDMELVTEYYNYLRKHFSMMI"

#### ORIGIN

1 agagctatgc ctaatttgc acgcatttt gctagcttaa tattggcacg taagcatagt  
61 acgtgttgca atacttctga acggttctac cgtcttgcta atgagtgtgc gcaagttctc  
121 agtgaattg tctctgctgg tggcgggttt tacgttaagc cgggtggaac tagcagtggc  
181 gatttacta cagcgtacgc taatagtgtg ttaatatat gtcaagctgt gagtgccaat  
241 ctcaacacat tttgtctag agatggcaat aagatatata actcttatgt gcagggctta  
301 cagagcgccc tgacttggg tatatatcgt acacacacag ttgacatgga attggtcacg  
361 gagtattaca actatctgcg gaagcacttt agtatgatga tt

//

LOCUS MN312668 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Rousettus bat coronavirus HKU9 isolate 7544-3 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312668

VERSION MN312668

KEYWORDS .

SOURCE Rousettus bat coronavirus HKU9

ORGANISM Rousettus bat coronavirus HKU9

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Nobecovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402  
/organism="Rousettus bat coronavirus HKU9"  
/mol\_type="genomic RNA"  
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/host="Eonycteris spelaea"  
/db\_xref="taxon:694006"  
/country="Laos"  
gene <1..>402  
/gene="RdRp"  
CDS <1..>402

/gene="RdRp"  
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/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88288"  
/translation="RAMPNLLRIFASLILARKHATCCNASERFYRLANECAQVLSEMV  
LCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQELQR  
RLYLGIYRSNTVDNELVLDYYNYLRKHFSMMI"

ORIGIN

1 agagctatgc ctaattgtt gcgtatatt gccagcctta ttttagctcg taagcatgca  
61 acttgttgca atgcctctga gagatttat aggttggtta atgaatgcgc gcaggttttg  
121 agtgagatgg tcctctgtgg aggagggttt tacgtgaaac ctggtggtac cagtagtgga  
181 gattccacaa ctgcatatgc taacagtgtt ttaacatct gtcaagctgt tagtgctaat  
241 ctaataacct tttatctat agacggtaat aagattaca ccacatgtg gcaggaactg  
301 cagaggcggg tatacttggg tatataccgt agtaacactg tggataatga gttagtctg  
361 gattattata actatttgcg caagcatttt agtatgatga tt

//

LOCUS MN312669 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Roussetus bat coronavirus HKU9 isolate 7554-1 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312669

VERSION MN312669

KEYWORDS .

SOURCE Roussetus bat coronavirus HKU9

ORGANISM Roussetus bat coronavirus HKU9

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Nobecovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Roussetus bat coronavirus HKU9"  
/mol\_type="genomic RNA"  
/isolate="7554-1"  
/host="Eonycteris spelaea"  
/db\_xref="taxon:694006"  
/country="Laos"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88289"

/translation="RAMPNLLRIFASLILARKHATCCNASERFYRLANECAQVLSEMV"

LCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQELQR  
RLYLGIYRSNTVDNELVLDYYNYLRKHFSMMI"

ORIGIN

1 agagctatgc ctaattatt gcgtatatt gctagcctta ttttagctcg taagcacgca  
61 acttgttga atgcctctga gagatttat aggttgctta atgaatgcgc gcaggttttg  
121 agtgagatgg tcctctgtgg aggagggttt tacgtgaac ctggtggtac cagtagtgga  
181 gattccacaa ctgcatatgc taatagtgt ttaacattt gtaagctgt tagtgctaat  
241 ctaataacct tttatctat agacggtaat aagatttaca ccacttatgt gcaggaatta  
301 cagaggcgtt tatactggg tatataccgt agtaactctg tggataatga gttagtctg  
361 gattattata actatttgcg caagcattt agtatgatga tt

//

LOCUS MN312670 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Roussetus bat coronavirus HKU9 isolate 7554-2 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312670

VERSION MN312670

KEYWORDS .

SOURCE Roussetus bat coronavirus HKU9

ORGANISM Roussetus bat coronavirus HKU9

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Nobecovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Roussetus bat coronavirus HKU9"  
/mol\_type="genomic RNA"  
/isolate="7554-2"  
/host="Eonycteris spelaea"  
/db\_xref="taxon:694006"  
/country="Laos"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88290"

/translation="RAMPNLLRIFASLILARKHATCCNASERFYRLANCAQVLSEMV  
LCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQELQR  
RLYLGIYRSNTVDNELVLDYYNYLRKHFSMMI"

ORIGIN

1 agagctatgc ctaattatt gcgtatatt gctagcctta ttttagctcg taagcatgca  
61 acttgttga atgcctctga gagatttat aggttgctta atgaatgcgc gcaggttttg

121 agtgagatgg tcctctgtgg aggagggttt tacgtgaaac ctggtggtac cagtagtgga  
181 gattccacaa ctgcatatgc caacagtgtt ttaacatct gtcaagctgt tagtgctaat  
241 ctaataacct tttatctat agacggtaat aagatttaca ccacctatgt gcaggaactg  
301 cagaggcggg tataactggg tatataccgt agtaacactg tggataatga gttagtctg  
361 gattattata actatttgcg caagcatttt agtatgatga tt

//

LOCUS MN312671 591 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat betacoronavirus isolate 7896 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312671

VERSION MN312671

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 591)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 591)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..591  
/organism="Bat betacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="7896"  
/host="Rhinolophus sp."  
/db\_xref="taxon:1805463"  
/country="China"

gene <1..>591  
/gene="RdRp"

CDS <1..>591  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88291"  
/translation="RAMPNMLRIMASLVLARKHTTCCSLSHRFYRLANECAQVLSEMV  
MCGGSLYVKPGGTSSGDATTAYANSVFNICQAITANVNALLSTDGNGKIADKYIRNLQH  
RLYECLYRNRDVIDDFVNEFYAYLRKHFSMMILSDDAVVCFNSTYASQGLVASIKNFK  
SVLYYQNNVFMSEAKCWTETDLTKGPHEFCSQHTMMI"

ORIGIN

1 agagccatgc ctaatatgct tagaattatg gcctcactg ttcttgctcg caaacatagc  
61 acttggtga gcttgctgca cggttctat aggttagcta acgagtgtgc acaagtatta  
121 agtgaaatgg ttatgtgtgg cggttcacta tatgttaaac caggtggaac ctcacagga  
181 gatgccacaa ctgcttatgc taatagtgc ttaatatct gtcaagctat tacggcaaat  
241 gtaatgcac tttatctac tgatggtaac aaaattgctg ataaatacat tcgcaattg  
301 caacatagac ttatgagtg tctctatagg aatagagatg ttgacataga ctttgtgaat

361 gagttttacg catatttgcg taaacacttc tcaatgatga tactctctga cgatgctgtc  
421 gtgtgtttta atagcaccta cgcgtctcaa ggtttagtgg ctagcataaa gaactttaag  
481 tcagttcttt attaccaaaa taatgttttt atgtctgaag caaaatgctg gactgagact  
541 gaccttacta aaggacctca tgaattttgc tctcaacata ctatgatgat t

//

LOCUS MN312672 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 7931 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312672

VERSION MN312672

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat betacoronavirus"

/mol\_type="genomic RNA"

/isolate="7931"

/host="Rhinolophus sp."

/db\_xref="taxon:1805463"

/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88292"

/translation="RAMPNMLRIMASLVLARKHTTCCSLSHRFYRLANCAQVLSEMV

MCGGSLYVKPGGTSSGDATTAYANSVFNICQAITANVNALLSTDGNKIADKYIRNLQH

RLYECLYRNRDVIDDFVNEFYAYLRKHFSMMI"

ORIGIN

1 agagccatgc ctaatatget tagaattatg gcctcacttg ttcttgctcg caaacatacg  
61 acttggtgta gcttgctgca cggttctat aggttagcta acgagtgtgc acaagtatta  
121 agtgaatgg ttatgtgtgg cggttcacta tatgttaaac caggtggaac ctcacagga  
181 gatgccacaa ctgcttatgc taatagtgtc ttaatatct gtcaagctat tacggcaaat  
241 gtaaatgac tttatctac tgatggtaac aaaattgctg ataaatacat tcgcaatttg  
301 caacatagac tttatgagtg tctctatagg aatagagatg ttgacataga ctttgatgat  
361 gagttttacg catatttgcg taaacacttc tctatgatga tt

//

LOCUS MN312673 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 7952 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312673

VERSION MN312673

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat betacoronavirus"

/mol\_type="genomic RNA"

/isolate="7952"

/host="Rhinolophus sp."

/db\_xref="taxon:1805463"

/country="China"

gene <1..>402

/gene="RdRp"

CDS

<1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88293"

/translation="RAMPNMLRIMASLVLARKHTTCCSLSHRFYRLANCAQVLSEMV  
MCGGSLYVKPGGTSSGDATTAYANSVFNICQAITANVNALLSTDGINKIADKYIRNLQH  
RLYECLYRNRDVIDDFVNEFYAYLRKHFSMMI"

ORIGIN

1 agagccatgc ctaatatgct tagaattatg gcctcacttg ttcttgctcg caaacatagc  
61 acttgttga gcttgcgca ccgtttctat aggttagcta acgagtgtgc acaagtatta  
121 agtgaaatgg ttatgtgtgg cggttcacta tatgttaaac caggtggaac ctcacagga  
181 gatgccacaa ctgcttatgc taatagtgtc ttaatatct gtcaagctat tacggcaaat  
241 gtaaatgcac tttatctac tgatggtaac aaaattgctg ataaatacat tcgcaatctg  
301 caacatagac tttatgagtg tcctatagga aatagagatg ttgacataga ctttgtgaat  
361 gagttttacg catatttcg taaacacttc tctatgatga tt

//

LOCUS MN312674 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Tylonycteris bat coronavirus HKU4 isolate BH140216 RNA-dependent  
RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312674

VERSION MN312674

**KEYWORDS** .**SOURCE** Tylonycteris bat coronavirus HKU4**ORGANISM** Tylonycteris bat coronavirus HKU4Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.**REFERENCE** 1 (bases 1 to 402)**AUTHORS** Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

**TITLE** Origin and cross-species transmission of bat coronaviruses in China**JOURNAL** Unpublished**REFERENCE** 2 (bases 1 to 402)**AUTHORS** Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

**TITLE** Direct Submission**JOURNAL** Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China**FEATURES** Location/Qualifiers

source 1..402

/organism="Tylonycteris bat coronavirus HKU4"

/mol\_type="genomic RNA"

/isolate="BH140216"

/host="Cynopterus sphinx"

/db\_xref="taxon:694007"

/country="China"

gene &lt;1..&gt;402

/gene="RdRp"

CDS &lt;1..&gt;402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88294"

/translation="RAMPNMCRILASLILARKHSTCCTNSDRFYRLANCAQVLSEYV

LCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIIDREIKDMQF

DLYINVYRKVVPDPKFVDKYYAFLNKHFSMMI"

**ORIGIN**1 agagctatgc ctaatatgtg tcgcatttta gcgctattga ttttggcagc taagcatagt  
61 acttgttga ctaattctga taggttctac cgcctagcta atgagtgtgc tcaagtgtta  
121 agtgagtatg tcctatgccg aggggggttat tatgttaaac cagtggttac gagtagtggt  
181 gatgcaacta ctgcttatgc caatagtgtt ttaacatat tacaagccac caccgctaat  
241 gttagtgcac taatgagtgc taatggaat acgatcatag atcgtgaaat aaaggatatg  
301 caatttgatt tgtatatcaa tgtatataga aaagtagtgc ctgaccta atttgttgac  
361 aagtactac catttctaa taaacacttt tctatgatga tt

//

**LOCUS** MN312675 406 bp RNA linear VRL 07-NOV-2019**DEFINITION** Bat betacoronavirus isolate BY140519 RNA-dependent RNA polymerase (RdRp) gene, partial cds.**ACCESSION** MN312675**VERSION** MN312675**KEYWORDS** .**SOURCE** Bat betacoronavirus**ORGANISM** Bat betacoronavirusViruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
 Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
 TITLE Origin and cross-species transmission of bat coronaviruses in China  
 JOURNAL Unpublished

REFERENCE 2 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
 Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
 TITLE Direct Submission  
 JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
 biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
 Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES

Location/Qualifiers

source 1..406  
 /organism="Bat betacoronavirus"  
 /mol\_type="genomic RNA"  
 /isolate="BY140519"  
 /host="Pipistrellus abramus"  
 /db\_xref="taxon:1805463"  
 /country="China"  
 gene <1..>406  
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 CDS <1..>406  
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 /product="RNA-dependent RNA polymerase"  
 /protein\_id="QGA88295"  
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 MVLCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQEL  
 QRRLYMGYIRTNTVDNDLVLDYYNYLRKHFSMM"

ORIGIN

1 tgtgatagag ctatgccaa cttgttgcgt atatttgcca gtetaat ttt ggcgcgaaaa  
 61 cactctact gctgcaatgc ctctgaaaga tttataggt tagcaaatga gtgtgccaa  
 121 gtgcttagtg agatgg ttt atgtggaggt ggattctatg taaaaccagg aggtacaagt  
 181 agtggcgatt ccaccactgc atatgcaaat agtgtgttta atatttgcca agcgggtgagt  
 241 gctaatttaa acacctttt gtctatagat ggtaataaaa tatacacaac ttacgtacaa  
 301 gagttgcaac gtaggttga tatgggtatt tatcgacta acacagtgga taatgattta  
 361 gttctggatt attataacta ttgcgtaag cattttagta tgatga

//

LOCUS MN312676 408 bp RNA linear VRL 07-NOV-2019  
 DEFINITION Bat betacoronavirus isolate BY140527 RNA-dependent RNA polymerase  
 (RdRp) gene, partial cds.

ACCESSION MN312676

VERSION MN312676

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus  
 Viruses; Riboviria; Nidovirales; Coronaviridae;  
 Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
 Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
 TITLE Origin and cross-species transmission of bat coronaviruses in China  
 JOURNAL Unpublished



REFERENCE 2 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..408

/organism="Bat betacoronavirus"

/mol\_type="genomic RNA"

/isolate="BY140527"

/host="Pipistrellus sp."

/db\_xref="taxon:1805463"

/country="China"

gene <1..>408

/gene="RdRp"

CDS <1..>408

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88296"

/translation="CDRAMPNLLRIFASLILARKHSTCCNASERFYRLANCAQVLSE

MVLCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQEL

QRRLYMGYRTNTVDNDLVLDYYNYLRKHFSMMI"

ORIGIN

1 tgtgatagag ctatgccaa cttgtgcgt atattgcca gtctaattt ggcgcgaaaa  
61 cactctact gctgcaatc ctctgaaaga tttataggt tagcaaatga gtgtgccaa  
121 gtgcttagt agatggttt atgtggagg ggattctatg taaaaccagg aggtacaagt  
181 agtggcgatt ccaccactgc atatgcaaat agtgtgtta atattgcca agcggtgagt  
241 gctaatttaa acacctttt gtctatagat ggtaataaaa tatacacaac ttacgtaca  
301 gagttgcaac gtaggttga tatgggtatt tatcgcacta acacagtgga taatgatta  
361 gtcttgatt attataacta ttgcgtaag catttagta tgatgatt

//

LOCUS MN312677 407 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat betacoronavirus isolate BY140530 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312677

VERSION MN312677

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 407)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 407)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
source            1..407  
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                  /isolate="BY140530"  
                  /host="Pipistrellus abramus"  
                  /db\_xref="taxon:1805463"  
                  /country="China"  
gene             <1..>407  
                  /gene="RdRp"  
CDS              <1..>407  
                  /gene="RdRp"  
                  /codon\_start=3  
                  /product="RNA-dependent RNA polymerase"  
                  /protein\_id="QGA88297"  
                  /translation="DRAMPNLLRIFASLILARKHSTCCNASERFYRLANECAQVLSEM  
                  VLCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQELQ  
                  RRLYMGIIYRTNTVDNDLVLDDYNYLRKHFSMMI"

#### ORIGIN

1 gtgatagagc tatgccaac ttgttcgta tattgccag tctaatttg ggcgaaaac  
61 actctacttg ctgcaatgcc tctgaaagat ttataggtt agcaaatgag tgtgccaag  
121 tgcttagtga gatggtttta tgtggagtg gattctatgt aaaaccagga ggtacaagta  
181 gtggcgattc caccactgca tatgcaaata gtgtgtttaa tattgcca a gcggtgagtg  
241 ctaatttaa caccttttg tctatagatg gtaataaat atacacaact tacgtacaag  
301 agttgcaacg taggtgtat atgggtatt atcgactaa cacagtggat aatgatttag  
361 ttctggatta ttataactat ttgcgtaagc atttagtat gatgatt

//

LOCUS   MN312678            408 bp   RNA   linear   VRL 07-NOV-2019  
DEFINITION   Pipistrellus bat coronavirus HKU5 isolate BY140535-1 RNA-dependent  
                  RNA polymerase (RdRp) gene, partial cds.

ACCESSION   MN312678

VERSION     MN312678

KEYWORDS   .

SOURCE     Pipistrellus bat coronavirus HKU5

ORGANISM   Pipistrellus bat coronavirus HKU5

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE  1 (bases 1 to 408)

AUTHORS    Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
              Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE       Origin and cross-species transmission of bat coronaviruses in China

JOURNAL     Unpublished

REFERENCE  2 (bases 1 to 408)

AUTHORS    Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
              Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE       Direct Submission

JOURNAL     Submitted (13-AUG-2019) Key laboratory of special pathogens and  
              biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
              Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

source            1..408  
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/country="China"  
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CDS <1..>408  
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YVLCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNTIVDKVKDM  
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#### ORIGIN

1 tgtgatcgcg ctatgcctaa tatgtgcaga atatttgcatt ctctcatatt agcccgtaag  
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241 gcaaatgta gtgcacttat gggcgctaat ggcaacacta ttgttgacaa ggaagttaag  
301 gacatgcagt tgaactgta tgtaaatgt tacaggaaga gccaacctga tctaaattt  
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//

LOCUS MN312679 408 bp RNA linear VRL 07-NOV-2019  
DEFINITION Pipistrellus bat coronavirus HKU5 isolate BY140535-2 RNA-dependent  
RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312679

VERSION MN312679

KEYWORDS .

SOURCE Pipistrellus bat coronavirus HKU5

ORGANISM Pipistrellus bat coronavirus HKU5

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..408

/organism="Pipistrellus bat coronavirus HKU5"

/mol\_type="genomic RNA"

/isolate="BY140535-2"

/host="Pipistrellus abramus"

/db\_xref="taxon:694008"

/country="China"

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/protein\_id="QGA88299"  
/translation="CDRAMPNMCRIFASLILARKHSTCCTNTDRFCRLANECAQVLSE  
YVLCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNTIVDKEVKDM  
QFELYVNVYRKSQPDPKFVDRYYAFLNKHFSMMI"

ORIGIN

1 tgtgatcgcg ctatgcccaa tatgtgcaga atatttgcac ctctcatatt agcccgtaag  
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241 gcaaatgta gtgcacttat gggcgctaata ggcaacacta ttgttgacaa ggaagttaag  
301 gacatgcagt tgaactgta tgtaaatgt tacaggaaga gccaacctga tcctaaattt  
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LOCUS MN312680 406 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate BY140551 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312680

VERSION MN312680

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..406  
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/mol\_type="genomic RNA"  
/isolate="BY140551"  
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/country="China"

gene <1..>406  
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CDS <1..>406  
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/codon\_start=1

/product="RNA-dependent RNA polymerase"  
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ORIGIN

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121 gtgcttagtg agatggtttt atgtggaggt ggattctatg taaaaccagg aggtacaagt  
181 agtggcgatt ccaccactgc atatgcaaat agtgtgttta atattgcca agcggtgagt  
241 gctaatttaa acaccttttt gtctatagat ggtaataaaa tatacacaac ttacgtacaa  
301 gagttgcaac gtaggttgta tatgggtatt tategcacta acacagtgga taatgattta  
361 gtcttgatt attataacta ttgcgtaag cattttagta tgatga

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LOCUS MN312681 409 bp RNA linear VRL 07-NOV-2019

DEFINITION Pipistrellus bat coronavirus HKU5 isolate BY140562 RNA-dependent  
RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312681

VERSION MN312681

KEYWORDS .

SOURCE Pipistrellus bat coronavirus HKU5

ORGANISM Pipistrellus bat coronavirus HKU5

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..409

/organism="Pipistrellus bat coronavirus HKU5"

/mol\_type="genomic RNA"

/isolate="BY140562"

/host="Pipistrellus abramus"

/db\_xref="taxon:694008"

/country="China"

gene <1..>409

/gene="RdRp"

CDS <1..>409

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88301"

/translation="CDRAMPNMCRIFASLILARKHSTCCTNTDRFYRLANCAQVLSE

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ORIGIN

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61 catagtacct gttgactaa tactgataga tttaccgct tagcaaatga gtgcgctcaa  
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181 agtggcgatg caaccacagc ttacgccaat agtgtttta acattctgca ggcgacaacc  
241 gcaaatgta gtgcacttat gggcgctaata ggcaacacta ttgtgacaa agaagttaag  
301 gacatgcagt ttgagctgta tgtaaatgtt tacagaaaga gccaacctga tcctaaattt  
361 gtggacaggt actatgcctt tctgaataag cacttttcta tgatgatte

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LOCUS MN312682 408 bp RNA linear VRL 07-NOV-2019

DEFINITION Pipistrellus bat coronavirus HKU5 isolate BY140564 RNA-dependent  
RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312682

VERSION MN312682

KEYWORDS .

SOURCE Pipistrellus bat coronavirus HKU5

ORGANISM Pipistrellus bat coronavirus HKU5

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..408

/organism="Pipistrellus bat coronavirus HKU5"  
/mol\_type="genomic RNA"  
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/host="Pipistrellus abramus"  
/db\_xref="taxon:694008"  
/country="China"

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/gene="RdRp"

CDS <1..>408

/gene="RdRp"  
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QFELYVNVYRKSQPDPKFVDRYYAFLNKHFSMMI"

ORIGIN

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241 gcaaatgta gtgcacttat gggcgctaata ggcaacacta ttgttgacaa agaagttaag  
301 gacatgcagt ttgagctgta tgtaaattgt tacagaaaga gccaacctga tcttaaattt  
361 gtggataggt attatgcctt tctgaataag cacttttcta tgatgatt

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LOCUS MN312683 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Pipistrellus bat coronavirus HKU5 isolate BY140565-1 RNA-dependent  
RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312683

VERSION MN312683

KEYWORDS .

SOURCE Pipistrellus bat coronavirus HKU5

ORGANISM Pipistrellus bat coronavirus HKU5

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

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/country="China"

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CDS <1..>402

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ORIGIN

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241 gttagtgcac ttatgggcgc taatggcaac actattgttg acaagaagt taaggacatg  
301 cagtttgagc tgatgtaaa tgttacaga aagagccaac ctgatcctaa atttgggat  
361 aggtattatg cctttctgaa taagcacttt tctatgatga tt

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LOCUS MN312684 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat betacoronavirus isolate BY140565-2 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312684

VERSION MN312684

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

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CDS <1..>402

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ORIGIN

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301 caacgtaggt tgtataggg tattatcgc actaacacag tggataatga ttagtcttg  
361 gattattata actatttgcg taagcatttt agtatgatga tt

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LOCUS MN312685 408 bp RNA linear VRL 07-NOV-2019

DEFINITION Pipistrellus bat coronavirus HKU5 isolate BY140568 RNA-dependent  
RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312685

VERSION MN312685

KEYWORDS .



SOURCE Pipistrellus bat coronavirus HKU5

ORGANISM Pipistrellus bat coronavirus HKU5

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..408

/organism="Pipistrellus bat coronavirus HKU5"

/mol\_type="genomic RNA"

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/host="Pipistrellus abramus"

/db\_xref="taxon:694008"

/country="China"

gene <1..>408

/gene="RdRp"

CDS <1..>408

/gene="RdRp"

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/product="RNA-dependent RNA polymerase"

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QFELYVNVYRKSQPDPKFVDRYYAFLNKHFSMMI"

ORIGIN

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241 gcgaatgta gtgcacttat gggcgctaat ggcaacacta ttgttgacaa ggaagttaag  
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361 gtggacaggt attatgcctt tctgaacaag catttttcta tgatgatt

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LOCUS MN312686 664 bp RNA linear VRL 07-NOV-2019

DEFINITION Pipistrellus bat coronavirus HKU5 isolate BY140575 RNA-dependent  
RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312686

VERSION MN312686

KEYWORDS .

SOURCE Pipistrellus bat coronavirus HKU5

ORGANISM Pipistrellus bat coronavirus HKU5

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 664)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 664)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..664  
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/db\_xref="taxon:694008"  
/country="China"  
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CDS <1..>664  
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/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88306"  
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ATTAYANSVFNILQATTANVSALMGANGNTIVDKQFELVNVYRKSQDPKFV  
DRYYAFLNKHFSMMILSDDGVVCYNSDYATKGYIASIQNFKETLYYQNNVFMSEAKCW  
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FVS"

ORIGIN

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121 agtagtggcg atgcaaccac agcttacgcc aatagtgtct ttaacatctt gcaggcgact
181 accgcaaatg ttagtgcact tatgggtgct aatggcaaca ctattgttga caaagaagtt
241 aaggacatgc agtttgagct gtatgtaaat gttacagaa agagccaacc tgatcctaaa
301 ttcgtggaca ggtattatgc cttctgaat aagcactttt ccatgatgat actgtctgat
361 gacggtgtcg tatgtataa tagtgattat gccactaagg ggtacatcgc atccattcaa
421 aattttaagg agactctgta ctatcagaac aatgtcttca tgcagaggc taaatgctgg
481 gtggaaccg atttgaaaaa aggtccacat gagttttgct cacagcatac actttcata
541 aaggatggtg acgatggta ctctacct tatccagacc ctcaagaat tctgtctgcc
601 ggttgcctcg tcgatgatat cgtcaagact gacggtaacg tcatggttga gagattcgtg
661 tcatt
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LOCUS MN312687 406 bp RNA linear VRL 07-NOV-2019  
DEFINITION Pipistrellus bat coronavirus HKU5 isolate BY140576 RNA-dependent  
RNA polymerase (RdRp) gene, partial cds.  
ACCESSION MN312687  
VERSION MN312687  
KEYWORDS .  
SOURCE Pipistrellus bat coronavirus HKU5  
ORGANISM Pipistrellus bat coronavirus HKU5  
Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 406)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..406

/organism="Pipistrellus bat coronavirus HKU5"

/mol\_type="genomic RNA"

/isolate="BY140576"

/host="Pipistrellus abramus"

/db\_xref="taxon:694008"

/country="China"

gene <1..>406

/gene="RdRp"

CDS <1..>406

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88307"

/translation="DRAMPNMCRIFASLILARKHSTCCTNTDRFYRLANECAQVLSEY

VLCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNTIVDKVVKDMQ

FELYVNVYRKSQDPKFDVDRYYAFLNKHFSMMI"

ORIGIN

1 tgatagact atgcctaata tgttagaat cttgcttct ctcatttgg cgcgtaagca  
61 tagtactgt gtactaaca ctgatagatt ttaccgctta gctaatgagt gcgctcaagt  
121 gcttagtgag tacgtccttt gtggcgggtg ttattacgtc aaacctggtg ggaccagtag  
181 cggcgatgca accacggctt acgccaatag tgtctttaac attctgcagg cgactaccgc  
241 gaatgtagt gcacttatgg gcgctaattg caacactatt gttgacaaag aagtaagga  
301 catgcagttt gagctatatg taaatgtta cagaaagagc cagcctgacc ctaaattgt  
361 ggacaggtat tatgccttc tgaataagca ttttctatg atgatt

//

LOCUS MN312688 388 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 8363 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312688

VERSION MN312688

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 388)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 388)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..388  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="8363"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>388  
/gene="RdRp"  
CDS <1..>388  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88308"  
/translation="GWDYPKCDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANEC  
AQVLSEMVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIAD  
KYIRNLQHRLYECLYRNRDVDHEFVDE"

#### ORIGIN

1 tggttgggat taccctaaat gtcacagagc catgcctaat atgcttagaa tcatggcttc  
61 ccttgttctt gctcgaaac atagcacttg ttgtaacttg tcatcctgtt tctatagatt  
121 agctaatagag tgtgcacaag tattaagtga gatggctcatg tgtggcggct cattatatgt  
181 gaaaccaggt ggaacatcat ccgggtgatgc cacaactgct tatgctaata gtgtgtttaa  
241 catctgtcaa gcagtaacag ctaatgtaaa tgcacttctc tcaactgatg gtaataagat  
301 tgctgataag tacatccgca acctcaaca tagactttat gagtgtctct atagaaatag  
361 agatgtagat catgagttcg tggatgaa

//

LOCUS MN312689 393 bp RNA linear VRL 07-NOV-2019  
DEFINITION Tylonycteris bat coronavirus HKU4 isolate 8824 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.  
ACCESSION MN312689  
VERSION MN312689  
KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4  
ORGANISM Tylonycteris bat coronavirus HKU4  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 393)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 393)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..393  
/organism="Tylonycteris bat coronavirus HKU4"  
/mol\_type="genomic RNA"  
/isolate="8824"  
/host="Tylonycteris pachypus"  
/db\_xref="taxon:694007"  
/country="China"  
gene <1..>393  
/gene="RdRp"  
CDS <1..>393  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88309"  
/translation="GWDYPKCDRAMPNMCRILASLILARKHSTCCTNSDRFYRLANEC  
AQVLSEYVLCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIID  
REIKDMQFDLYINVYRKVVPDPKFVASTT"

ORIGIN

1 tggttgggat tactctaagt gtagcgtgc tatgcctaat atgtgtcga ttttagcgtc  
61 attgattttg gcacgtaagc atagctactg ttgtactaat tctgataggt tetaccgctt  
121 agccaatgag tgtgctcaag tgtaagtga gtatgtccta tgcggaggag gtattatgt  
181 taaccagggt ggtacgagta gtggtgatgc aactactgct tatgccaata gtgttttaa  
241 catattacaa gccaccaccg ctaatgtag tgcacttatg agtgctaatg gtaatacgt  
301 catagatcgt gaaataaagg atatgcaatt tgacttgat atcaatgat atagaaaagt  
361 agtgctgat cctaaattg tggcaagtac tac

//

LOCUS MN312690 388 bp RNA linear VRL 07-NOV-2019

DEFINITION Tylonycteris bat coronavirus HKU4 isolate 8826 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312690

VERSION MN312690

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 388)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 388)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..388

/organism="Tylonycteris bat coronavirus HKU4"  
/mol\_type="genomic RNA"  
/isolate="8826"  
/host="Tylonycteris pachypus"  
/db\_xref="taxon:694007"  
/country="China"  
gene <1..>388  
/gene="RdRp"  
CDS <1..>388  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88310"  
/translation="WDYPKCDRAMPNMCRLASLILARKHSTCCTNSDRFYRLANECA  
QVLSEYVLCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIIDR  
EIKDMQFDLYINVYRKVVPDPKFFAST"

#### ORIGIN

1 gttgggatta tcctaatgt gatcgtgcta tgcctaata gtgtcgcatt ttagcgtcat  
61 tgatttggc acgtaagcat agtacttgtt gtactaatc tgatagggtc taccgcttag  
121 ccaatgagtg tgctcaagtg ttaagtgagt atgtcctatg cggaggagggt tattatgta  
181 aaccaggtgg tacgagtagt ggtgatgcaa ctactgetta tgccaatagt gttttaaca  
241 tattacaagc caccaccgct aatgttagtg cacttatgag tgctaattgt aatacgatca  
301 tagatcgtga aataaaggat atgcaattg acttgtatat caatgtatat agaaaagtag  
361 tgctgatcc taaatttgg gcaagtac

//

LOCUS MN312691 407 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 151161 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312691

VERSION MN312691

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 407)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 407)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..407  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="151161"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"

gene /country="China"  
<1..>407  
/gene="RdRp"  
CDS <1..>407  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88311"  
/translation="CDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANCAQVLSE  
MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNL  
QHRLYECLYRNRDVDHEFVDEFYAYLRKHFSMM"

#### ORIGIN

1 tgtgatagag ccatgectaa catgcttaga atcatggctt ctctgttct tgctcgcaaa  
61 catagcactt gctgtaactt gtcacaccgc ttctatagat tagctaacga gtgtgcacaa  
121 gtattaagtg agatggctcat gtgtggagc tcactatag taaaccagg cggaacatca  
181 tcaggtgatg ccacaactgc ttatgctaat agtgtgttta acattgtca agccgtaaca  
241 gctaatgtaa atgcacttct ttaactgat ggtaacaaga ttgtgacaa gtatgtgcgc  
301 aatcttcagc acagactata tgagtgtctc tatagaaata gagacgttga tcatgagttt  
361 gtggatgagt ttacgcata ttgcgtaag cattttcta tgatgat

//

LOCUS MN312692 408 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 151162 RNA-dependent RNA

polymerase (RdRp) gene, partial cds.

ACCESSION MN312692

VERSION MN312692

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..408  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="151162"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>408  
/gene="RdRp"  
CDS <1..>408  
/gene="RdRp"

/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88312"  
/translation="CDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSE  
MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGDKIADKYVRNL  
QHRLYECLYRNRDVEDHEFVDEFYAYLRKHFSMMI"

ORIGIN

1 tgtgatagag ccatgcctaa catgcttaga atcatggctt ctctcgttct tgctcgcaaa  
61 catagcactt gctgtaattt gtcacaccgt ttctatagat tagctaatga atgtgcacaa  
121 gtattaagtg agatgggtcat gtgtggcggc tctatatatg taaaaccagg tggaacatcg  
181 tcaggtgatg caacgactgc ttatgctaat agtgtgttta acatttgcga agctgtaaca  
241 gccaatgtaa atgcacttct ttaactgat ggtaacaaga ttgcagacaa gtacgtgcgc  
301 aatcttcage acagactata tgagtgtctc tatagaaata gagacgttga tcatgagttt  
361 gtggatgagt ttacgcata ttgcgtaag catttttcta tgatgatt

//

LOCUS MN312693 407 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 151199 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312693

VERSION MN312693

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 407)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 407)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..407

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="151199"

/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>407

/gene="RdRp"

CDS <1..>407

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88313"

/translation="CDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSE

MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGDKIADKYVRNL



QHRLYECLYRNRDVDHEFVDEFYAYLRKHFSMM"

ORIGIN

1 tgtgacagag ccatgcctaa catgcttaga atcatggctt ctctgttct tgctcgtaa  
61 catagcactt gttgtaactt gtcgcaccgt ttctatagat tagctaata gttgacaa  
121 gtattaagt agatggcat gttggcggc tcaatatg taaaccagg tggcacatc  
181 tctggtgat ctacaactgc ttatgcta atgtgttta acatctgtca agctgtaaca  
241 gctaata gtaacactct tcaactgat ggcaacaaga ttgccgacaa gtacgtccg  
301 aatctcaac acagacttta tgaatgtctc tatagaaata gggatgtaga tcatgaattc  
361 gtggatgaat ttacgcata ttggcgcaa cacttctc taatgat

//

LOCUS MN312694 408 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 151200 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312694

VERSION MN312694

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..408

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="151200"

/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>408

/gene="RdRp"

CDS <1..>408

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88314"

/translation="CDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANCAQVLSE

MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNL

QHRLYECLYRNRDVDHEFVDEFYAYLRKHFSMMI"

ORIGIN

1 tgtgacagag ccatgcctaa tatgcttaga atcatggctt ctctgttct tgctcgcaa  
61 catagcactt gttgtaactt gtcacaccgt ttctatagat tagctaata atgtgacaa  
121 gtattaagt agatggcat gttggcggc tcaatatg taaaccagg tggaacatc

181 tcgggtgatg caacgactgc ttatgcta atgtgtgtta acattgtca agctgtaaca  
241 gccaatgtaa atgcactct tcaactgat ggtaacaaga ttgctgacaa gtatgttcgc  
301 aatctccaac acaggetata tgagtgtctc tatagaaata gagacgttga tcacgaattc  
361 gtggatgaat ttacgcata ttgctgaag cacttcteta tgatgatt

//

LOCUS MN312695 411 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 151239 RNA-dependent RNA

polymerase (RdRp) gene, partial cds.

ACCESSION MN312695

VERSION MN312695

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 411)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 411)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..411

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="151239"

/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>411

/gene="RdRp"

CDS <1..>411

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88315"

/translation="CDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANCAQVLSE

MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNL

QHRLYECLYRNRDVEDHEFVDEFYAYLRKHFSMMI"

ORIGIN

1 aatgtgatag agccatgcct aacatgctta gaatcatggc ttctcttgtt cttgctcgca

61 aacatagcac ttgttgtaac ttgtcacacc gttctatag attagctaac gtagtgtgcgc

121 aggtattaag tgagatggc atgtgtggcg gctcactata tgtgaaacca ggcggaacgt

181 catcaggtga tgctacaact gcttatgcta atagtgtgtt caacatctgt caagccgtaa

241 cagctaatgt aatgcactt ctttcaactg atggaataa gattgctgac aagtatgtgc

301 gcaatctca gcacagacta tatgagtgc tctatagaaa tagagacgtc gatcacgaat

361 tcgtggatga gttttacgca tatttcgta agcattttc tatgatgatt c

//

LOCUS MN312696 409 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 151256 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312696

VERSION MN312696

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..409

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="151256"

/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>409

/gene="RdRp"

CDS <1..>409

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88316"

/translation="CDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANCAQVLSE

MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNGKIADKYVRNL

QHRLYECLYRNRDVEDHEFVDEFYAYLRKHFSMMI"

ORIGIN

1 tgtgatagag ccatgcctaa catgcttaga atcatggctt ctctcgttct tgctcgcaaa  
61 catagcactt gctgtaattt gtcacaccgt ttctatagat tagctaata atgtgcacaa  
121 gtattaagtg agatggtcat gtgtggcggc tcactatag taaaaccagg tggaacatcg  
181 tcaggtgatg caacgactgc ttatgcta atgtgtgtta acatttgta agctgtaaca  
241 gccaatgtaa atgcactct tcaactgat ggtaacaaga tgcagacaa gtacgtgcgc  
301 aatcttcagc acagactata tgagtgtctc tatagaaata gagacgttga tcatgagttt  
361 gtggatgagt ttacgcata ttgcgtaag catttttcta tgatgattc

//

LOCUS MN312697 410 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 151262 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312697

VERSION MN312697

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 410)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 410)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..410

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="151262"

/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>410

/gene="RdRp"

CDS <1..>410

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88317"

/translation="CDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSE

MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNL

QHRLYECLYRNRDVDHEFVDEFYAYLRKHFSMMI"

ORIGIN

1 aatgtgatag agccatgcct aacatgctta gaatcatggc ttctctggtt cttgctcgca  
61 aacatagcac ttgctgtaat ttgtcacacc gttctatag attagctaat gaatgtgcac  
121 aagtattaag tgatagggc atgtgtggcg gctcactata tgtaaacca ggtggaacat  
181 cgctcaggtga tgcaacgact gcttatgcta atagtgtgtt taacatttgt caagctgtaa  
241 cagccaatgt aatgcactt cttcaactg atggtaacaa gattgcagac aagtacgtgc  
301 gcaatctca gcacagacta tatgagtgtc tctatagaaa tagagacgtt gatcatgagt  
361 ttgtggatga gttttacgca tatttgcgta agcattttc tatgatgatt

//

LOCUS MN312698 408 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 151267 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312698

VERSION MN312698

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..408  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="151267"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>408  
/gene="RdRp"  
CDS <1..>408  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88318"  
/translation="DRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANCAQVLSEM  
VMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNGKIADKYVRNLQ  
HRLYECLYRNRDVEDHEFVDEXYAYLRKHFSMMI"

ORIGIN

1 gtgatagagc catgctaac atgettagaa tcatggettc tctcgttctt gctcgcaaac  
61 atagcacttg ctgtaattg tcaaccggt tctatagatt agctaataa tgtgcacaag  
121 tattaagtga gatggctatg tgtggcggct cactatatgt aaaaccaggt ggaacatcgt  
181 caggtgatgc aacgactgct tatgctaata gtgtgtttaa catttgtcaa gctgtaacag  
241 ccaatgtaa tgcacttct tcaactgatg gtaacaagat tgcagacaag tacgtgcgca  
301 atcttagca cagactatat gagtgctct atagaaatag agacgtgat catgagttg  
361 tggatgagtt wtacgatat ttgcgtaagc attttctat gatgattc

//

LOCUS MN312699 409 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 151268 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312699

VERSION MN312699

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..409  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="151268"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>409  
/gene="RdRp"  
CDS <1..>409  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88319"  
/translation="CDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSE  
MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGDKIADKYVRNL  
QHRLYECLYRNRDVDHEFVDEFYAYLRKHFSMMI"

ORIGIN

1 tgtgatagag ccatgcctaa catgcttaga atcatggctt ctctcgttct tgctcgcaaa  
61 catagcactt gctgtaatt gtcacaccgt ttctatagat tagctaata gaatgcaaaa  
121 gtattaagtg agatggctcat ggtggcggcg tcactatag taaaaccagg tggaaatcg  
181 ctaggatgat caacgactgc ttatgctaata agtgtgttta acatttgta agctgtaaca  
241 gccaatgtaa atgcacttct tcaactgat ggtaacaaga ttgcagacaa gtacgtgcgc  
301 aatcttcagc acagactata tgagtgtctc tatagaaata gagacgttga tcatgagtt  
361 gtggatgagt ttacgcata ttgcgtaag cattttcta tgatgatc

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LOCUS MN312700 411 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 151270 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312700

VERSION MN312700

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 411)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 411)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..411  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="151270"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>411  
/gene="RdRp"  
CDS <1..>411  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88320"  
/translation="CDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSE  
MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNL  
QHRLYECLYRNRDVDHEFVDEFYAYLRKHFSMMI"

ORIGIN

1 aatgtgatag agccatgcct aacatgctta gaatcatggc ttctctcgtt cttgctcgca  
61 aacatagcac ttgctgtaat ttgtcacacc gtttctatag attagctaat gaatgtgcac  
121 aagtattaag tgatagtgtc atgtgtggcg gctcactata tgtaaacca ggtggaacat  
181 cgtcaggtga tgcaacgact gcttatgcta atagtgtgtt taacatttgt caagctgtaa  
241 cagccaatgt aatgcactt ctttcaactg atggtaacaa gattgcagac aagtacgtgc  
301 gcaatctca gcacagacta tatgagtgtc tctatagaaa tagagacgtt gatcatgagt  
361 ttgtggatga gttttacgca tatttgcgta agcatttttc tatgatgatt c

//

LOCUS MN312701 409 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 151271 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312701

VERSION MN312701

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..409  
/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"  
/isolate="151271"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>409  
/gene="RdRp"  
CDS <1..>409  
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/codon\_start=1  
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MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNL  
QHRLYECLYRNRDVDHEFVDEFYAYLRKHFSMMI"

#### ORIGIN

1 tgtgatagag ccatgcctaa catgcttaga atcatggctt ctctcgttct tgctcgcaaa  
61 catagcactt gctgtaattt gtcacaccgt ttctatagat tagctaatga atgtgcacaa  
121 gtattaagtg agatggcat gtgtggcgge tcactatag taaaaccagg tggaacatcg  
181 tcaggtgatg caacgactgc ttatgctaat agtgtgttta acatttgta agctgtaaca  
241 gccaatgtaa atgcacttct tcaactgat ggtaacaaga ttgcagacaa gtacgtgcgc  
301 aatcttcagc acagactata tgagtgtctc tatagaaata gagacgttga tcatgagttt  
361 gtggatgagt ttacgcata ttgcgtaag catttttcta tgatgattc

//

LOCUS MN312702 411 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 151334 RNA-dependent RNA

polymerase (RdRp) gene, partial cds.

ACCESSION MN312702

VERSION MN312702

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 411)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 411)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..411

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="151334"

/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

/country="China"



gene <1..>411  
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CDS <1..>411  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88322"  
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EMVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGINKIADKYVRN  
LQHRLYECLYRNRDVDHEFVDEFYAYLRKHFSMMI"

ORIGIN

1 aaatgtgata gagccatgcc taacatgctt agaatcatgg cttctctcgt tcttgcctgc  
61 aaacatagca cttgtttaa tttgcacac cgtttctata gattagctaa tgaatgtgca  
121 caagtattaa gtgagatggt catgtgtggc ggctcactat atgtaaaacc aggtggaaca  
181 tcgtcaggtg atgcaacgac tgcttatgct aatagtgtgt ttaacattg tcaagctgta  
241 acagccaatg taaatgcact tcttcaact gatgtaaca agattgccga caagtacgtg  
301 cgcaatcttc agcacagact atatgagtgt ctctatagaa atagagacgt tgatcatgag  
361 ttgtggatg agttttacgc atatttgcgt aagcatttt ctatgatgat t

//

LOCUS MN312703 408 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 151388 RNA-dependent RNA

polymerase (RdRp) gene, partial cds.

ACCESSION MN312703

VERSION MN312703

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..408  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="151388"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"  
/country="China"

gene <1..>408  
/gene="RdRp"

CDS <1..>408  
/gene="RdRp"  
/codon\_start=1

/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88323"  
/translation="CDRAMPNMLRIMASLV LARKHSTCCNLSHRFYRLANECAQVLSE  
MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDG NKIADKYVRNL  
QHRLYECLYRNRD VDFEYAYLRKHFSMMI"

ORIGIN

1 tgtgatagag ccatgcctaa catgcttaga atcatggctt ctctcgttct tgctcgcaaa  
61 catagcactt gttgtaattt gtcacaccgt ttctatagat tagctaata ga atgtgcacaa  
121 gtattaagtg agatgggcat ggtggcggc tcactatag taaaaccagg tggacatcg  
181 tcaggtgatg caacgactgc ttatgctaata agtgtgttta acattgtca agctgtaaca  
241 gccaatgtaa atgcacttct tcaactgat ggtaacaaga ttgccgacaa gtacgtgcegc  
301 aatcttcagc acagactata tgagtgtctc tatagaaata gagacgttga tcatgagtt  
361 gtggatgagt ttacgcata ttgcgtaag catttttcta tgatgatt

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LOCUS MN312704 421 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 151491 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312704

VERSION MN312704

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 421)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 421)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..421  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="151491"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>421  
/gene="RdRp"  
CDS <1..>421  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88324"  
/translation="DYPKCDRAMPNMLRIMASLV LARKHSTCCNLSHRFYRLANECAQ  
VLSEMVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDG NKIADKY  
VRNLQHRLYECLYRNRD VDFEYAYLRKHFSMMI"

## ORIGIN

1 gattatccta aatgtgatag agccatgcct aatatgctta gaatcatggc ttctcttgtt  
61 cttgctcgca aacatagcac ttgttgaac ttgtcacacc gtttctatag attagctaat  
121 gaatgtgcac aagtattaag tgagatggtc atgtgtggcg gctcactata tgtaaaacca  
181 ggtggaacat cgctcgggtga tgcaacgact gcttatgcta atagtgtgtt taacatttgt  
241 caagctgtaa cagccaatgt aaatgcactt ctttcaactg atggtaaaca gattgctgac  
301 aagtatgttc gcaatccca acacaggcta tatgagtgtc tctatagaaa tagagacgtt  
361 gatcacgaat tcgtggatga attttacgca tatttgcgta agcacttctc tatgatgatt  
421 c

//

LOCUS MN312705 410 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 151493 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312705

VERSION MN312705

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 410)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 410)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..410

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="151493"

/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>410

/gene="RdRp"

CDS <1..>410

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88325"

/translation="CDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANCAQVLSE

MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNL

QHRLYECLYRNRDVDHEFVDEFYAYLRKHFSMMI"

## ORIGIN

1 aatgtgacag agccatgcct aatatgctta gaatcatggc ttctcttgtt cttgctcgca  
61 aacatagcac ttgttgaac ttgtcacacc gtttctatag attagctaat gaatgtgcac  
121 aagtattaag tgagatggtc atgtgtggcg gctcactata tgtaaaacca ggtggaacat

181 cgctcgggtga tgcaacgact gcttatgcta atagtgtgt taacatttgt caagctgtaa  
241 cagccaatgt aatgcactt ctttcaactg atggaacaa gattgctgac aagtatgttc  
301 gcaatctcca acacaggcta tatgagtgtc tctatagaaa tagagacgtt gatcacgaat  
361 tcgtggatga attttagcga tatttgcgta agcacttctc tatgatgatt

//

LOCUS MN312706 409 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 151503 RNA-dependent RNA

polymerase (RdRp) gene, partial cds.

ACCESSION MN312706

VERSION MN312706

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..409

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="151503"

/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>409

/gene="RdRp"

CDS <1..>409

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88326"

/translation="CDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANCAQVLSE

MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNGKIADKYVRNL

QHRLYECLYRNRDVEDHEFVDEFYAYLRKHFSMMI"

ORIGIN

1 tgtgatagag ccatgcctaa tatgcttaga atcatggctt ctctgtcct tgctcgcaaa

61 catagcactt gttgtaactt gtcacaccgt ttctatagat tagctaatga atgtgcacaa

121 gtattaagtg agatgggtcat gttggcgge tcactatag taaaaccagg tggacatcg

181 tcgggtgatg caacgactgc ttatgctaat agtgtgttta acatttgca agctgtaaca

241 gccaatgtaa atgcacttct ttaactgat ggtaacaaga ttgctgacaa gtatgttcgc

301 aatctccaac acaggetata tgagtgtctc tatagaaata gagacgttga tcacgaattc

361 gtggatgaat tttagcata ttgcgtaag cacttctc taatgatgattc

//

LOCUS MN312707 409 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 151507 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312707

VERSION MN312707

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..409

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="151507"

/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>409

/gene="RdRp"

CDS <1..>409

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88327"

/translation="CDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANCAQVLSE

MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGKNKIADKYVRNL

QHRLYECLYRNRDVDYEFVDEFYAYLRKHFSMMI"

ORIGIN

1 tgtgatagag ccatgcctaa tatgcttaga atcatggcct ctcttgttct tgctcgcaa  
61 catagcactt gttgtaactt gtcacaccgt ttctatagat tagctaatga atgtgcacaa  
121 gtattaagtg agatggcat gtgtggcggc tcactatag taaaaccagg tggaacatcg  
181 tcgggtgatg caacgactgc ttatgctaat agtgtgttta acatttgta agctgtaaca  
241 gccaatgtaa atgcactct tcaactgat ggtaacaaga ttgctgacaa gtatgttcgc  
301 aatctccaac acaggtata tgagtgtctc tacagaaata gagacgtga ttacgaattc  
361 gtggatgaat tttacgcata tttgcgtaag cacttcteta tgatgattc

//

LOCUS MN312708 411 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 151512 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312708

VERSION MN312708

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 411)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 411)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..411

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="151512"

/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>411

/gene="RdRp"

CDS <1..>411

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88328"

/translation="CDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSE

MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNL

QHRLYECLYRNRDVDHEFVDEFYAYLRKHFSMMI"

ORIGIN

1 aatgtgatag agccatgcct aatatgctta gaatcatggc ttctcttgtt cttgctcgca  
61 aacatagcac ttgttgtaac ttgtcacacc gttctatag attagctaat gaatgtgcac  
121 aagtattaag tgatagggc atgtgtggcg gctcactata tgtaaacca ggtggaacat  
181 cgctcgggtga tgcaacgact gcttatgcta atagtgtgtt taacatttgt caagctgtaa  
241 gagcaaatgt aatgcactt cttcaactg atggtaacaa gattgctgac aagatgttc  
301 gcaatctcca acacaggcta tatgagtgtc tctatagaaa tagagacgtt gatcacgaat  
361 tcgtggatga atttacgca tatttgcgta agcacttctc tatgatgatt c

//

LOCUS MN312709 411 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 151513 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312709

VERSION MN312709

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 411)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 411)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..411  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="151513"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>411  
/gene="RdRp"  
CDS <1..>411  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88329"  
/translation="CDRAMPNMLRIMASLV LARKHSTCCNLSHRFYRLANCAQVLSE  
MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNGKIADKYVRNL  
QHRLYECLYRNRDVDHEFVDEFYAYLRKHFSMMI"

ORIGIN

1 aatgtgatag agccatgcct aatatgetta gaatcatggc ttctcttgtt cttgctcgca  
61 aacatagcac ttgttgtaac ttgtcacacc gttctatag attagctaat gaatgtgcac  
121 aagtattaag tgagatggc atgtgtggcg gctcactata tgtaaacca ggtggaacat  
181 cgtcgggtga tgcaacgact gcttatgcta atagtgtgtt taacattgt caagctgtaa  
241 cagccaatgt aatgcaact ctttcaactg atggtaacaa gattgctgac aagtatgttc  
301 gcaatctcca acacaggcta tatgagtgtc tctatagaaa tagagacgtt gatcacgaat  
361 tcgtggatga attttacgca tatttgcgta agcacttctc tatgatgatt c

//

LOCUS MN312710 411 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 151514 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312710

VERSION MN312710

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus  
Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 411)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 411)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..411  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="151514"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>411  
/gene="RdRp"  
CDS <1..>411  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88330"  
/translation="CDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSE  
MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGDKIADKYVRNL  
QHRLYECLYRNRDVDHEFVDEFYAYLRKHFSMMI"

ORIGIN

1 aatgtgatag agccatgcct aatatgetta gaatcatggc ttctcttgtt cttgctcgca  
61 aacatagcac ttgttgtaac ttgtcacacc gttctatag attagctaat gaatgtgcac  
121 aagtgttaag tgatagggc atgtgtggcg gctcactata tgtaaaacca ggtggaacat  
181 cgtcgggtga tgcaacgact gcttatgcta atagtgtgtt taacatttgc caagctgtaa  
241 cagctaatgt aatgcactt cttcaactg atggtacaaa gattgctgac aagtatgtgc  
301 gcaatctca acacaggcta tatgagtgc tctatagaaa tagagacgtt gatcatgaat  
361 ttgtggatga atttatgca tatttgcgta agcactctc tatgatgatt c

//

LOCUS MN312711 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 151569 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312711

VERSION MN312711

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and



biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
source            1..402  
                  /organism="Bat SARS-like coronavirus"  
                  /mol\_type="genomic RNA"  
                  /isolate="151569"  
                  /host="Rhinolophus sinicus"  
                  /db\_xref="taxon:1508227"  
                  /country="China"  
gene             <1..>402  
                  /gene="RdRp"  
CDS              <1..>402  
                  /gene="RdRp"  
                  /codon\_start=1  
                  /product="RNA-dependent RNA polymerase"  
                  /protein\_id="QGA88331"  
                  /translation="RAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSEMV  
MCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNLQH  
RLYECLYRNRDVEDHEFVDEFYAYLRKHFMMI"

#### ORIGIN

1 agagccatgc ctaacatgct taggataatg gcctctcttg ttcttgctcg caaacatagc  
61 acttgctgta acttatcaca ccgtttctac aggttagcta acgagtgctg gcaagtatta  
121 agtgagatgg tcattgtggt cggtcacta tatgttaa acaggtggaac atcatcaggt  
181 gatgctacaa ctgcttatgc taatagtgtt ttaacattt gtaagctgt tacagctaat  
241 gtaaagcac ttctctcaac ttagtgtaac aagatagctg acaagtatgt ccgcaatcta  
301 caacacagge tttatgagtg tctctataga aatagggatg ttgatcatga atcgtggat  
361 gagttttacg cttacctgcg taaacatttc tctatgatga tt

//

LOCUS    MN312712            399 bp    RNA    linear    VRL 07-NOV-2019  
DEFINITION    Tylonycteris bat coronavirus HKU4 isolate 152609 RNA-dependent RNA  
                  polymerase (RdRp) gene, partial cds.

ACCESSION    MN312712

VERSION     MN312712

KEYWORDS     .

SOURCE      Tylonycteris bat coronavirus HKU4

ORGANISM     Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE    1 (bases 1 to 399)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Origin and cross-species transmission of bat coronaviruses in China

JOURNAL      Unpublished

REFERENCE    2 (bases 1 to 399)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Direct Submission

JOURNAL      Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

source            1..399  
                  /organism="Tylonycteris bat coronavirus HKU4"

/mol\_type="genomic RNA"  
/isolate="152609"  
/host="Tylonycteris pachypus"  
/db\_xref="taxon:694007"  
/country="China"  
gene <1..>399  
/gene="RdRp"  
CDS <1..>399  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88332"  
/translation="AMPNMCRI LASLILARKHSTCCTNSDRFYRLANECAQVLSEYVL  
CGGGYYVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIVDREIKDMQFD  
LYTNVYRKVVPDPKFDKYYAFLNKHFSMMI"

#### ORIGIN

1 gctatgccta atatgtgctg catttagcg tcattgattt tggcacgtaa gcatagtact  
61 tgttgacta attctgatag attttaccgc ttgccaatg agtgtgctca agtgtaagt  
121 gagtatgtct tatgeggagg ggggtattat gttaaaccag gtggtacgag tagtggtgat  
181 gcaactactg cttatgccaa tagtgttttt aacatattac aagccactac cgctaattgt  
241 agtgactaa tgagtgctaa tggtaacacg atcgtagatc gtgaaataaa ggatatgcaa  
301 tttgactgt ataccaatgt gtagagaaa gtagtgcctg atcctaaatt tgttgacaag  
361 tactacgat ttcttaataa acattttct atgatgatt

//

LOCUS MN312713 388 bp RNA linear VRL 07-NOV-2019  
DEFINITION Tylonycteris bat coronavirus HKU4 isolate 152619 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312713

VERSION MN312713

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 388)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 388)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..388

/organism="Tylonycteris bat coronavirus HKU4"

/mol\_type="genomic RNA"

/isolate="152619"

/host="Tylonycteris pachypus"

/db\_xref="taxon:694007"

/country="China"

gene <1..>388  
/gene="RdRp"  
CDS <1..>388  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88333"  
/translation="MCRILASLILARKHSTCCTNSDRFYRLANECAQVLSEYVLCGGG  
YYVKPGGTSSGDATTA YANSVFNILQATTANVSALMSANGNTIVDREIKDMQFDLYTN  
VYRKVVPDPKFVDKYYAFLNKHFSMM"

ORIGIN

1 atatgtgtcg cattttagcg tcattgatt tggcacgtaa gcatagtact tgtgtacta  
61 attctgatag attttaccgc ttagccaatg agtgtgctca agtgtaagt gagtatgtct  
121 tatcgaggagg gggttattat gttaaaccag gtggtacgag tagtggtgat gcaactactg  
181 cttatgcaa tagtgtttt aacatattac aagccactac cgctaagtgt agtgcactaa  
241 tgagtgctaa tgtaacacg atcgtagatc gtgaaataaa ggatatgcaa tttgacttgt  
301 ataccaatgt gtagataaaa gtagtgctg atcctaaatt tgttgacaag tactacgcat  
361 ttcttaataa acactttct atgatgat

//

LOCUS MN312714 302 bp RNA linear VRL 07-NOV-2019  
DEFINITION Tylonycteris bat coronavirus HKU4 isolate 152620 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312714

VERSION MN312714

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 302)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 302)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..302  
/organism="Tylonycteris bat coronavirus HKU4"  
/mol\_type="genomic RNA"  
/isolate="152620"  
/host="Tylonycteris pachypus"  
/db\_xref="taxon:694007"  
/country="China"

gene <1..>302  
/gene="RdRp"

CDS <1..>302  
/gene="RdRp"  
/codon\_start=1

/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88334"  
/translation="AMPNMCRIASLILARKHSTCCTNSDRFYRLANECAQVLSEYVL  
CGGGYYVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIVDREIKDMQ"

ORIGIN

1 gctatgccta atatgtgtcg cattttagcg tcattgattt tggcagctaa gcatagtact  
61 tttgtacta attctgatag attttaccgc ttagccaatg agtgtgtctca agtgtaagt  
121 gagtatgtct tatgcggagg gggttattat gttaaaccag gtggtacgag tagtggtgat  
181 gcaactactg cttatgcca tagtgtttt aacatattac aagccactac cgtaatgtt  
241 agtgactaa tgagtgtctaa tggtaacacg atcgtagatc gtgaaataaa ggatatgcaa  
301 tt

//

LOCUS MN312715 399 bp RNA linear VRL 07-NOV-2019  
DEFINITION Tylonycteris bat coronavirus HKU4 isolate 152626 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312715

VERSION MN312715

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..399

/organism="Tylonycteris bat coronavirus HKU4"  
/mol\_type="genomic RNA"  
/isolate="152626"  
/host="Tylonycteris pachypus"  
/db\_xref="taxon:694007"  
/country="China"

gene <1..>399

/gene="RdRp"

CDS <1..>399

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88335"

/translation="AMPNMCRIASLILARKHSTCCTNSDRFYRLANECAQVLSEYVL

CGGGYYVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIVDREIKDMQFD  
LYTNVYRKVVPDPKFDKYYAFLNKHFSMMI"

ORIGIN

1 gctatgccta atatgtgtcg cattttagcg tcattgattt tggcagctaa gcatagtact

61 tgttgacta attctgatag attttaccgc ttagccaatg agtgtgctca agtgtaagt  
121 gagtatgtct tatgcggagg ggggtattat gtaaaccag gtggtacgag tagtggtgat  
181 gcaactactg cttatgcca tagtgTTTT aacatattac aagccactac cgctaatgtt  
241 agtgactaa tgagtgctaa tggtaacacg atcgtagatc gtgaaataaa ggatatgcaa  
301 tttgacttgt ataccaatgt gtatagaaaa gtatgacctg atcctaaatt tgttgacaag  
361 tactacgcat ttcttaataa acacttttct atgatgatt

//

LOCUS MN312716 408 bp RNA linear VRL 07-NOV-2019

DEFINITION Tylonycteris bat coronavirus HKU4 isolate 152628 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312716

VERSION MN312716

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..408

/organism="Tylonycteris bat coronavirus HKU4"

/mol\_type="genomic RNA"

/isolate="152628"

/host="Tylonycteris pachypus"

/db\_xref="taxon:694007"

/country="China"

gene <1..>408

/gene="RdRp"

CDS <1..>408

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88336"

/translation="CDRAMPNMCRILASLILARKHSTCCTNSDRFYRLANCAQVLSE

YVLCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIVDREIKDM

QFDLYTNVYRKVVPDPKFDKYYAFLNKHFSMMI"

ORIGIN

1 tgtgatagag ctatgcctaa tatgtgtcgc attttaccgc cattgattt ggcacgtaag

61 catagtactt gttgtactaa ttctgataga tttaccgct tagccaatga gtgtgctcaa

121 gtgttaagt agtatgtctt atgcggaggg ggttattatg ttaaaccagg tggtacgagt

181 agtggtgatg caactactgc ttatgccaat agtgTTTTa acatattaca agccactacc

241 gctaatgta gtgcactaat gagtgcctaa ggtaacacga tctgatgcg tgaataaag

301 gatagcaat ttgacttga taccaatgtg tatagaaaag tagtgcctga tctaaattt

361 gttgacaagt actacgcatt tcttaataaa cactttteta tgatgatt

//

LOCUS MN312717 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Tylonycteris bat coronavirus HKU4 isolate 152649 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312717

VERSION MN312717

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Tylonycteris bat coronavirus HKU4"  
/mol\_type="genomic RNA"  
/isolate="152649"  
/host="Tylonycteris pachypus"  
/db\_xref="taxon:694007"  
/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88337"

/translation="RAMPNMCRILASLILARKHSTCCTNSDRFYRLANCAQVLSEYV

LCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIVDREIKDMQF

DLYTNVYRKVVPDPKFVDKYYAFLNKHFSMMI"

ORIGIN

1 agagctatgc ctaatatgtg tcgcatttta gcgctattga ttttggcagc taagcatagt  
61 acttgttga ctaattctga tagattttac cgcttagcca atgagtgtgc tcaagtgtta  
121 agtgagtatg tcttatgcgg aggggggttat tatgttaaac caggtggtac gagtagtggt  
181 gatgcaacta ctgcttatgc caatagtgtt tttaacatat tacaagccac taccgcta  
241 gttagtgcac taatgagtgc taatggtaac acgatcgtag atcgtgaaat aaaggatatg  
301 caattgact tgtataccaa tgtgtataga aaagtgtgc ctgatcctaa atttgtgac  
361 aagtactacg catttcttaa taaacacttt tctatgatga tt

//

LOCUS MN312718 336 bp RNA linear VRL 07-NOV-2019  
DEFINITION Tylonycteris bat coronavirus HKU4 isolate 152656 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312718

VERSION MN312718

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 336)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 336)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..336

/organism="Tylonycteris bat coronavirus HKU4"

/mol\_type="genomic RNA"

/isolate="152656"

/host="Tylonycteris pachypus"

/db\_xref="taxon:694007"

/country="China"

gene <1..>336

/gene="RdRp"

CDS <1..>336

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88338"

/translation="MPNMCRILASLILARKHSTCCTNSDRFYRLANECAQVLSEYVLC

GGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIVDREIKDMQFDL

YTNVYRKVVP"

ORIGIN

1 tatgcctaat atgtgtcgca ttttagcgtc attgatttg gcacgtaage atagtacttg

61 ttgtactaat tctgatagat tttaccgctt agccaatgag tgtgctcaag tgtaagtga

121 gtatgtctta tggggagggg gttattatgt taaaccaggt ggtacgagta gtggtgatgc

181 aactactgct tatgccaata gtgttttaa catattaca gccactaccg ctaatgtag

241 tgcaactatg agtgctaag gtaacacgat cgtagatcgt gaaataaagg atatgcaatt

301 tgacttgat accaatgtgt atagaaaagt agtgcc

//

LOCUS MN312719 409 bp RNA linear VRL 07-NOV-2019

DEFINITION Tylonycteris bat coronavirus HKU4 isolate 152658 RNA-dependent RNA

polymerase (RdRp) gene, partial cds.

ACCESSION MN312719

VERSION MN312719

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..409

/organism="Tylonycteris bat coronavirus HKU4"

/mol\_type="genomic RNA"

/isolate="152658"

/host="Tylonycteris pachypus"

/db\_xref="taxon:694007"

/country="China"

gene <1..>409

/gene="RdRp"

CDS <1..>409

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88339"

/translation="CDRAMPNMCRILASLILARKHSTCCTNSDRFYRLANECAQVLSE

YVLCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIVDREIKDM

QFDLYTNVYRKVVPDPKFDKYYAFLNKHFSMMI"

ORIGIN

1 atgtgataga gctatgccta atatgtgtcg catttagcg tcattgattt tggcacgtaa  
61 gcatagtact tgtgtacta attctgatag atttaccgc ttagccaatg agtgtgctca  
121 agtgtaagt gagtatgtct tatgcggagg ggggtattat gtaaaccag gtggtacgag  
181 tagtggtgat gcaactactg cttatgcca tagtgttttt aacatattac aagccactac  
241 cgctaagtgt agtgcactaa tgagtgctaa tgtaacacg atcgtagatc gtgaaataaa  
301 ggatatgcaa ttgacttgt ataccaatgt gtagagaaaa gtagtgctg atcctaaatt  
361 tgttgacaag tactacgcat ttcttaataa acacttttct atgatgatt

//

LOCUS MN312720 399 bp RNA linear VRL 07-NOV-2019

DEFINITION Tylonycteris bat coronavirus HKU4 isolate 152659 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312720

VERSION MN312720

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China



JOURNAL Unpublished

REFERENCE 2 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..399

/organism="Tylonycteris bat coronavirus HKU4"

/mol\_type="genomic RNA"

/isolate="152659"

/host="Tylonycteris pachypus"

/db\_xref="taxon:694007"

/country="China"

gene <1..>399

/gene="RdRp"

CDS <1..>399

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88340"

/translation="AMPNMCRIASLILARKHSTCCTNSDRFYRLANCAQVLSEYVL

CGGGYYVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIVDREIKDMQFD

LYTNVYRKVVPDPKFDKYYAFLNKHFSMMI"

ORIGIN

1 gctatgcta atatgtgctg catttagcg tcattgatt tggcacgtaa gcatagtact  
61 tgttgacta attctgatag atttaccgc ttagccaatg agtgtgctca agtgtaagt  
121 gagtatgtct tatcgaggagg ggggtattat gtaaaccag gtggtacgag tagtggtgat  
181 gcaactactg cttatgcaa tagtgtttt aacatattac aagccactac cgctaatgtt  
241 agtgcactaa tgagtgctaa tgtaacacg atcgtagatc gtgaaataaa ggatatgcaa  
301 ttgactgt ataccaatgt gtagaataaa gtagtgctg atcctaaatt tgttgacaag  
361 tactacgcat ttctaataa acattttct atgatgatt

//

LOCUS MN312721 410 bp RNA linear VRL 07-NOV-2019

DEFINITION Tylonycteris bat coronavirus HKU4 isolate 152660 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312721

VERSION MN312721

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 410)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 410)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..410  
/organism="Tylonycteris bat coronavirus HKU4"  
/mol\_type="genomic RNA"  
/isolate="152660"  
/host="Tylonycteris pachypus"  
/db\_xref="taxon:694007"  
/country="China"  
gene <1..>410  
/gene="RdRp"  
CDS <1..>410  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88341"  
/translation="CDRAMPNMCRILASLILARKHSTCCTNSDRFYRLANCAQVLSE  
YVLCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIVDREIKDM  
QFDLYTNVYRKVVPDPKFDKYYAFLNKHFSMMI"

ORIGIN

1 aatgtgacag agctatgcct aatattgttc gcattttagc gtcattgatt ttggcacgta  
61 agcatagtac ttgtgttact aattctgata gattttaccg cttagccaat gagggtgctc  
121 aagtgttaag tgagtatgct ttatgcggag ggggttatta tgtaaacca ggtggtacga  
181 gtatggtga tgcaactact gcttatgcca atagtgttt taacatatta caagccacta  
241 ccgctaattg tagtgcaata atgagtgcta atggaacac gatcgtagat cgtgaaataa  
301 aggatagca atttgacttg tataccaatg tgtatagaaa agtagtgctc gatcctaaat  
361 ttgttgacaa gtactacgca ttcttaata aacactttc tatgatgatt

//

LOCUS MN312722 398 bp RNA linear VRL 07-NOV-2019

DEFINITION Tylonycteris bat coronavirus HKU4 isolate 152684 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312722

VERSION MN312722

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 398)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 398)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..398

/organism="Tylonycteris bat coronavirus HKU4"  
/mol\_type="genomic RNA"  
/isolate="152684"  
/host="Tylonycteris pachypus"  
/db\_xref="taxon:694007"  
/country="China"  
gene <1..>398  
/gene="RdRp"  
CDS <1..>398  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88342"  
/translation="AMPNMCRI LASLILARKHSTCCTNSDRFYRLANECAQVLSEYVL  
CGGGYYVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIVDREIKDMQFD  
LYTNVYRKVVPDPKFDKYYAFLNKHFSMM"

#### ORIGIN

1 gctatgccta atatgtgtcg cattttagcg tcattgattt tggcacgtaa gcatagtact  
61 tttgtacta attctgatag attttaccgc ttagccaatg agtgtgctca agtgtaagt  
121 gagtatgtct tatcgaggagg ggggtattat gtaaaccag gtggtacgag tagtggtgat  
181 gcaactactg cttatgccaa tagtgttttt aacatattac aagccactac cgctaatgtt  
241 agtgcactaa tgagtgctaa tgtaacacg atcgtagatc gtgaaataaa ggatagcaa  
301 ttgactgt ataccaatgt gtagaaaaa gtatgctctg atcctaaatt tgttgacaag  
361 tactacgeat ttcttaataa acacttttct atgatgat

//

LOCUS MN312723 367 bp RNA linear VRL 07-NOV-2019  
DEFINITION Tylonycteris bat coronavirus HKU4 isolate 152686 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312723

VERSION MN312723

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 367)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 367)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..367  
/organism="Tylonycteris bat coronavirus HKU4"  
/mol\_type="genomic RNA"  
/isolate="152686"  
/host="Tylonycteris pachypus"  
/db\_xref="taxon:694007"

gene /country="China"  
<1..>367  
/gene="RdRp"  
CDS <1..>367  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88343"  
/translation="ASLILARKHSTCCTNSDRFYRLANECAQVLSEYVLCGGGGYYVKP  
GGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIVDREIKDMQFDLYTNVYRKV  
VPDPKFVDKYYAFLNKHFSM"

#### ORIGIN

1 agcgtcattg atttggcac gtaagcatag tacttgtgt actaattctg atagattta  
61 ccgcttagcc aatgagtgtg ctcaagtgtt aagtgagtat gtcttatgcg gaggggggta  
121 ttatgttaa ccaggtgga cgagtagtgg tgatgcaact actgcttatg ccaatagtgt  
181 ttttaacata ttacaagcca ctaccgctaa tgtagtgca ctaatgagtg ctaatgtaa  
241 caccatcgta gatcgtgaaa taaagatat gcaattgac ttgtatacca atgtgtatag  
301 aaaagtatg cctgatccta aattgttga caagtactac gcatttcta ataacactt  
361 ttctatg

//

LOCUS MN312724 399 bp RNA linear VRL 07-NOV-2019  
DEFINITION Tylonycteris bat coronavirus HKU4 isolate 152687 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312724

VERSION MN312724

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..399  
/organism="Tylonycteris bat coronavirus HKU4"  
/mol\_type="genomic RNA"  
/isolate="152687"  
/host="Tylonycteris pachypus"  
/db\_xref="taxon:694007"  
/country="China"

gene <1..>399  
/gene="RdRp"

CDS <1..>399  
/gene="RdRp"

/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88344"  
/translation="AMPNMCRIASLILARKHSTCCTNSDRFYRLANCAQVLSEYVL  
CGGGYYVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIVDREIKDMQFD  
LYTNVYRKVVPDPKFDKYYAFLNKHFSMMI"

ORIGIN

1 gctatgecta atatgtgctg cattttagcg tcattgatt tggcacgtaa gcatagtact  
61 tgttgacta attctgatag attttaccgc ttagccaatg agtgtgctca agtgtaagt  
121 gagtatgtct tatgcggagg gggttattat gtaaaccag gtggtacgag tagtggtgat  
181 gcaactactg cttatgcaa tagtgTTTT aacatattac aagccactac cgctaatgtt  
241 agtgactaa tgagtgctaa tggtaacacg atcgtagatc gtgaaataaa ggatagcaa  
301 tttgactgt ataccaatgt gtatagaaaa gtagtgcctg atcctaaatt tgttgacaag  
361 tactacgcat ttcttaataa acattttct atgatgatt

//

LOCUS MN312725 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Tylonycteris bat coronavirus HKU4 isolate 152688 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312725

VERSION MN312725

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Tylonycteris bat coronavirus HKU4"

/mol\_type="genomic RNA"

/isolate="152688"

/host="Tylonycteris pachypus"

/db\_xref="taxon:694007"

/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88345"

/translation="RAMPNMCRIASLILARKHSTCCTNSDRFYRLANCAQVLSEYV  
LCGGGYYVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIVDREIKDMQF

DLYTNVYRKVVPDPKFVDKYYAFLNKHFSMMI"

ORIGIN

1 agagctatgc ctaatgtg tcgcatttta gcgctattga tttggcagc taagcatagt  
61 acttgttga ctaattctga tagattttac cgcttagcca atgagtgtgc tcaagtgtta  
121 agtgagtatg tcttatgcgg aggggggtat tatgttaaac caggtggtag gagtagtggt  
181 gatgcaacta ctgcttatgc caatagtgtt ttaacatat tacaagccac taccgcta  
241 gttagtgcac taatgagtc taatggtaac acgatcgtag atcgtgaaat aaaggatag  
301 caatttgact tgtataccaa tgtgtataga aaagtagtc ctgaccta atttgtgac  
361 aagtactag catttctaa taaacacttt tctatgatga tt

//

LOCUS MN312726 399 bp RNA linear VRL 07-NOV-2019  
DEFINITION Tylonycteris bat coronavirus HKU4 isolate 152689 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312726

VERSION MN312726

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..399

/organism="Tylonycteris bat coronavirus HKU4"  
/mol\_type="genomic RNA"  
/isolate="152689"  
/host="Tylonycteris pachypus"  
/db\_xref="taxon:694007"  
/country="China"

gene <1..>399

/gene="RdRp"

CDS <1..>399

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88346"

/translation="AMPNMCRIASLILARKHSTCCTNSDRFYRLANCAQVLSEYVL

CGGGYYVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGTIVDREIKDMQFD

LYTNVYRKVVPDPKFVDKYYAFLNKHFSMMI"

ORIGIN

1 gctatgccta atatgtgtcg cattttagcg tcattgatt tggcacgtaa gcatagtact  
61 tgttgacta attctgatag attttaccgc ttagccaatg agtgtgctca agtgtaagt  
121 gagtatgtct tatcgggagg gggtattat gttaaaccag gtggtacgag tagtggtgat

181 gcaactactg cttatgccaa tagtgTTTT aacatattac aagccactac cgctaattgt  
241 agtgcactaa tgatgctaa tggtaacacg atcgtagatc gtgaaataaa ggatagcaa  
301 tttgactgt ataccaatgt gtatagaaaa gtatgctcgt atcctaaatt tttgacaag  
361 tactacgat ttcttaataa acactttct atgatgatt

//

LOCUS MN312727 401 bp RNA linear VRL 07-NOV-2019  
DEFINITION Tylonycteris bat coronavirus HKU4 isolate 152690 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312727

VERSION MN312727

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 401)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 401)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..401

/organism="Tylonycteris bat coronavirus HKU4"  
/mol\_type="genomic RNA"  
/isolate="152690"  
/host="Tylonycteris pachypus"  
/db\_xref="taxon:694007"  
/country="China"

gene <1..>401

/gene="RdRp"

CDS <1..>401

/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88347"  
/translation="AMPNMCRLASLILARKHSTCCTNSDRFYRLANCAQVLSEYVL  
CGGGYYVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIVDREIKDMQFD  
LYTNVYRKVVPDPKFDKYYAFLNKHFSMMI"

ORIGIN

1 gagctatgcc taatgtgtg cgcatttag cgtcattgat tttggcactg aagcatagta  
61 cttgtgttac taattctgat agattttacc gettagccaa tgatgtgct caagtgttaa  
121 gtgagtatgt cttatgcgga ggggggttatt atgttaaacc aggtggtacg agtagtggtg  
181 atgcaactac tgcttatgcc aatagtggtt ttaacatatt acaagccact accgctaag  
241 ttatgtcact aatgagtgt aatggttaaca cgatcgtaga tcgtgaaata aaggatagc  
301 aatttgact gtataccaat gtgtatagaa aagtagtgcc tgatcctaaa tttgtgaca  
361 agtactacgc atttctaat aaacactttt ctatgatgat t

//

LOCUS MN312728 411 bp RNA linear VRL 07-NOV-2019  
DEFINITION Tylonycteris bat coronavirus HKU4 isolate 152691 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312728

VERSION MN312728

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 411)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 411)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..411

/organism="Tylonycteris bat coronavirus HKU4"  
/mol\_type="genomic RNA"  
/isolate="152691"  
/host="Tylonycteris pachypus"  
/db\_xref="taxon:694007"  
/country="China"

gene <1..>411

/gene="RdRp"

CDS <1..>411

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88348"

/translation="KCDRAMPNMCRLASLILARKHSTCCTNSDRFYRLANCAQVLS  
EYVLCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGTIVDREIKD  
MQFDLYTNVYRKVVPDPKFVDKYYAFLNKHFSMMI"

ORIGIN

1 aaatgtgaca gagctatgcc taatatgtgt cgcatttag cgtcattgat tttggcacgt  
61 aagcatagta cttgtgtac taattctgat agattttacc gcttagccaa tgagtgtgct  
121 caagtgttaa gtgagtatgt cttatgcgga ggggggtatt atgttaaacc aggtggtacg  
181 agtagtggtg atgcaactac tgcttatgcc aatagtgttt ttaacatatt acaagccact  
241 accgctaata ttagtgact aatgagtct aatggaaca cgatcgtaga tcgtgaaata  
301 aaggatatgc aatttgactt gtataccaat gtgtatagaa aagtagtgcc tgatcctaaa  
361 tttgtgaca agtactacgc atttctaat aaacactttt ctatgatgat t

//

LOCUS MN312729 401 bp RNA linear VRL 07-NOV-2019

DEFINITION Tylonycteris bat coronavirus HKU4 isolate 152692 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312729

VERSION MN312729



**KEYWORDS** .**SOURCE** Tylonycteris bat coronavirus HKU4**ORGANISM** Tylonycteris bat coronavirus HKU4Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.**REFERENCE** 1 (bases 1 to 401)**AUTHORS** Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

**TITLE** Origin and cross-species transmission of bat coronaviruses in China**JOURNAL** Unpublished**REFERENCE** 2 (bases 1 to 401)**AUTHORS** Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

**TITLE** Direct Submission**JOURNAL** Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China**FEATURES** Location/Qualifiers

source 1..401

/organism="Tylonycteris bat coronavirus HKU4"

/mol\_type="genomic RNA"

/isolate="152692"

/host="Tylonycteris pachypus"

/db\_xref="taxon:694007"

/country="China"

gene &lt;1..&gt;401

/gene="RdRp"

CDS &lt;1..&gt;401

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88349"

/translation="AMPNMCRI L A S L I L A R K H S T C C T N S D R F Y R L A N E C A Q V L S E Y V L

C G G G Y Y V K P G G T S S G D A T T A Y A N S V F N I L Q A T T A N V S A L M S A N G N T I V D R E I K D M Q F D

L Y T N V Y R K V V P D P K F V D K Y Y A F L N K H F S M M I "

**ORIGIN**1 gagctatgcc taatatgtgt cgcatttag cgtcattgat tttggcacgt aagcatagta  
61 cttgtgttac taattctgat agatttacc gcttagccaa tgagtgtgct caagtgttaa  
121 gtgagtatgt cttatgcgga ggggggttatt atgttaaacc aggtggtacg agtagtggtg  
181 atgcaactac tgcttatgcc aatagtgttt ttaacatatt acaagccact accgctaata  
241 ttagtgcact aatgagtgtc aatgtaaca cgatcgtaga tcgtgaaata aaggatatgc  
301 aatttgactt gtataccaat gtgtatagaa aagtagtgcc tgatcctaaa tttgttgaca  
361 agtactacgc attcttaata aaacactttt ctatgatgat t

//

**LOCUS** MN312730 408 bp RNA linear VRL 07-NOV-2019**DEFINITION** Tylonycteris bat coronavirus HKU4 isolate 152694 RNA-dependent RNA polymerase (RdRp) gene, partial cds.**ACCESSION** MN312730**VERSION** MN312730**KEYWORDS** .**SOURCE** Tylonycteris bat coronavirus HKU4**ORGANISM** Tylonycteris bat coronavirus HKU4Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..408  
/organism="Tylonycteris bat coronavirus HKU4"  
/mol\_type="genomic RNA"  
/isolate="152694"  
/host="Tylonycteris pachypus"  
/db\_xref="taxon:694007"  
/country="China"  
gene <1..>408  
/gene="RdRp"  
CDS <1..>408  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88350"  
/translation="CDRAMPNMCRILASLILARKHSTCCTNSDRFYRLANCAQVLSE  
YVLCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIVDREIKDM  
QFDLYTNVYRKVVPDPKFDKYYAFLNKHFSMMI"

ORIGIN

1 tgtgatagag ctatgcctaa tatgtgtcgc attttagcgt cattgatttt ggcacgtaag  
61 catagtactt gttgtactaa ttctgataga tttaccgct tagccaatga gttgtgetcaa  
121 gtgtaagtg agtatgtctt atgcggaggg ggttattatg ttaaaccagg tggtacgagt  
181 agtggatg caactactgc ttatgccaat agtgtttta acatattaca agccactacc  
241 gctaagtta gtgcactaat gagtgctaat ggtaacacga tcgtagatcg tgaataaag  
301 gatatgcaat ttgacttgta taccaatgtg tatagaaaag tagtgectga tctaaattt  
361 gttgacaagt actacgcatt tcttaataaa cacttttcta tgatgatt

//

LOCUS MN312731 389 bp RNA linear VRL 07-NOV-2019  
DEFINITION Tylonycteris bat coronavirus HKU4 isolate 152715 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312731

VERSION MN312731

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 389)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 389)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..389

/organism="Tylonycteris bat coronavirus HKU4"

/mol\_type="genomic RNA"

/isolate="152715"

/host="Tylonycteris pachypus"

/db\_xref="taxon:694007"

/country="China"

gene <1..>389

/gene="RdRp"

CDS <1..>389

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88351"

/translation="AMPNMCRI L A S L I L A R K H S T C C T N S D R F Y R L A N E C A Q V L S E Y V L

C G G G Y Y V K P G G T S S G D A T T A Y A N S V F N I L Q A T T A N V S A L M S A N G N T I V D R E I K D M Q F D

L Y T N V Y R K V V P D P K F V D K Y Y A F L N K H F S "

ORIGIN

1 gctatgccta atatgtgtcg cattttagcg tcattgattt tggcacgtaa gcatagtact  
61 tgttgtaacta attctgatag attttaccgc ttagccaatg agtgtgtctca agtgtaagt  
121 gagtatgtct tatcgaggagg ggggtattat gtaaaccag gtggtacgag tagtggtgat  
181 gcaactactg cttatgcaa tagtgtttt aacatattac aagccactac cgctaatgtt  
241 agtgcactaa tgagtgtctaa tgtaacacg atcgtagatc gtgaaataaa ggatagcaa  
301 ttgactgtg ataccaatgt gtagagaaaa gtagtgctg atcctaaatt tgtgacaag  
361 tactacgcat ttcttaataa acacttttc

//

LOCUS MN312732 399 bp RNA linear VRL 07-NOV-2019

DEFINITION Tylonycteris bat coronavirus HKU4 isolate 152762 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312732

VERSION MN312732

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
source            1..399  
                  /organism="Tylonycteris bat coronavirus HKU4"  
                  /mol\_type="genomic RNA"  
                  /isolate="152762"  
                  /host="Tylonycteris pachypus"  
                  /db\_xref="taxon:694007"  
                  /country="China"  
gene              <1..>399  
                  /gene="RdRp"  
CDS                <1..>399  
                  /gene="RdRp"  
                  /codon\_start=1  
                  /product="RNA-dependent RNA polymerase"  
                  /protein\_id="QGA88352"  
                  /translation="AMPNMCRI L ASLILARKHSTCCTNSDRFYRLANECAQVLSEYVL  
CGGGYYVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIVDREIKDMQFD  
LYTNVYRKVVPDPK FVDKYYAFLNKHFSMMI"

#### ORIGIN

1 gctatgccta atatgtgtcg catttagcgc tcattgattt tggcacgtaa gcatagtact  
61 tttgtacta attctgatag attttaccgc ttagccaatg agtgtgtctca agtgtaagt  
121 gagtatgtcc tatgctggagg gggttattat gttaaaccag gtggtacgag tagtggtgac  
181 gcaactactg cttatgcca tagtgtttt aacatattac aagccactac cgtaaatgt  
241 agtgcactaa tgagtgctaa tgtaacacg atcgtagatc gtgaaataaa ggatatgcaa  
301 tttgattgt ataccaatgt gtagaataaa gtagtgctg atcctaaatt tgttgacaag  
361 tactacgcat ttcttaataa acacttttct atgatgatt

//

LOCUS    MN312733            399 bp    RNA    linear    VRL 07-NOV-2019  
DEFINITION    Tylonycteris bat coronavirus HKU4 isolate 152767 RNA-dependent RNA  
                  polymerase (RdRp) gene, partial cds.

ACCESSION    MN312733

VERSION      MN312733

KEYWORDS     .

SOURCE      Tylonycteris bat coronavirus HKU4

ORGANISM    Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE    1 (bases 1 to 399)

AUTHORS     Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
              Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE        Origin and cross-species transmission of bat coronaviruses in China

JOURNAL     Unpublished

REFERENCE    2 (bases 1 to 399)

AUTHORS     Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
              Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE        Direct Submission

JOURNAL     Submitted (13-AUG-2019) Key laboratory of special pathogens and  
              biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
              Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

source            1..399  
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CDS <1..>399  
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#### ORIGIN

1 gctatgccta atatgtgctg cattttagcg tcattgatt tggcacgtaa gcatagtact  
61 tgttgacta attctgatag atttaccgc ttagccaatg agtgtgctca agtgtaagt  
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LOCUS MN312734 399 bp RNA linear VRL 07-NOV-2019  
DEFINITION Tylonycteris bat coronavirus HKU4 isolate 152768 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312734

VERSION MN312734

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..399

/organism="Tylonycteris bat coronavirus HKU4"

/mol\_type="genomic RNA"

/isolate="152768"

/host="Tylonycteris pachypus"

/db\_xref="taxon:694007"

/country="China"

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LYTNVYRKVVPDPKFVDKYYAFLNKHFSMMI"

ORIGIN

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361 tactagcat ttctaataa acactttct atgatgatt

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LOCUS MN312735 399 bp RNA linear VRL 07-NOV-2019  
DEFINITION Tylonycteris bat coronavirus HKU4 isolate 152769 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312735

VERSION MN312735

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..399  
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/mol\_type="genomic RNA"  
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CDS <1..>399  
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ORIGIN

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121 gagtatgtcc tatgctggagg gggttattat gttaaaccag gtggtacgag tagtggtgac  
181 gcaactactg cttatgcca tagtgTTTT aacatattac aagccactac cgctaatgtt  
241 agtgcactaa tgagtgctaa tggtaacacg atcgtagatc gtgaaataaa ggatatgcaa  
301 tttgattgt ataccaatgt gtatagaaa gtagtgctg atcctaaatt tgttgacaag  
361 tactacgcat ttctaataa acactttct atgatgatt

//

LOCUS MN312736 399 bp RNA linear VRL 07-NOV-2019  
DEFINITION Tylonycteris bat coronavirus HKU4 isolate 152770 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312736

VERSION MN312736

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..399

/organism="Tylonycteris bat coronavirus HKU4"  
/mol\_type="genomic RNA"  
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/db\_xref="taxon:694007"  
/country="China"

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CDS <1..>399  
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ORIGIN

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181 gcaactactg cttatgcca tagtgtttt aacatattac aagccactac cgctaatgtt  
241 agtgcactaa tgagtgtctaa tgtaacacg atcgtagatc gtgaaataaa ggatatgcaa  
301 tttgattgt ataccaatgt gtagagaaa gtagtgcctg atcctaaatt tgttgacaag  
361 tactacgcat ttcttaataa acacttttct atgatgatt

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LOCUS MN312737 399 bp RNA linear VRL 07-NOV-2019  
DEFINITION Tylonycteris bat coronavirus HKU4 isolate 152771 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312737

VERSION MN312737

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..399

/organism="Tylonycteris bat coronavirus HKU4"  
/mol\_type="genomic RNA"  
/isolate="152771"  
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/db\_xref="taxon:694007"  
/country="China"

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/gene="RdRp"

CDS <1..>399

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LYTNVYRKVVPDPKFDKYYAFLNKHFSMMI"

ORIGIN

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61 tgttgtaacta attctgatag atttaccgc ttagccaatg agtgtgtctca agtgtaagt  
121 gagtatgtcc tatgctggagg gggttattat gttaaaccag gtggtacgag tagtggtgac  
181 gcaactactg cttatgcca tagtgtttt aacatattac aagccactac cgctaatgtt



241 agtgcactaa tgagtgctaa tggtaacacg atcgtagatc gtgaaataaa ggatatgcaa  
301 tttgatttgt ataccaatgt gtatagaaaa gtatgacctg atcctaaatt tgttgacaag  
361 tactacgcat ttcttaataa acacttttct atgatgatt

//

LOCUS MN312738 377 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 8548 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312738

VERSION MN312738

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 377)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 377)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..377

/organism="Bat SARS-like coronavirus"  
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/host="Rhinolophus sinicus"  
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/country="China"

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CDS <1..>377

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/codon\_start=2

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QHRLYECLYRNRDVDHEFVDEFT"

ORIGIN

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181 atcagtgat gctacaactg cttatgctaa tagtgtttt aacattgtc aagctgttac  
241 agccaatgta aatgcacttc ttcaactga tggcaacaag atcgccgaca agtatgttcg  
301 caatctcaa cacagacttt atgagtgtct ctacagaaat agggatgtag atcatgaatt  
361 cgtggatgaa ttacgc

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LOCUS MN312739 376 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 8561 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312739

VERSION MN312739

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae; Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 376)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J., Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 376)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J., Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..376

/organism="Bat SARS-like coronavirus"

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/db\_xref="taxon:1508227"

/country="China"

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ORIGIN

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361 cgtggatgaa ttacgc

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LOCUS MN312740 376 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 8572 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312740

VERSION MN312740

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 376)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 376)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..376

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

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/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

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ORIGIN

1 atgtgataga gccatgcta acatgcttag aatattggcc tctcttgctc ttgctcgcaa  
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241 agccaatgta aatgcacttc ttcaactga tggcaacaag atcggcgaca agtatgttcg  
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361 cgtggatgaa ttacgc

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LOCUS MN312741 377 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 8586 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312741

VERSION MN312741

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 377)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 377)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..377  
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ORIGIN

1 aatgtgatag agccatgcct aacatgctta gaatttggc ctctctgtt cttgctcgca  
61 aacatagcac ttgctgtaac ttatcacacc gttctacag gttagctaac gagtgtgctc  
121 aggtattaag tgagatggc atgtgtggcg gttcactata tgtaaacca ggtggaacat  
181 catcaggtga tgctacaact gcttatgcta atagtgttt taacatttgt caagctgta  
241 cagccaatgt aatgcaact cttcaactg atggcaaca gatcgccgac aagtatgttc  
301 gcaatctca acacagactt tatgagtgc tctacagaaa tagggatga gatcatgaat  
361 tcgtggatga attacgc

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LOCUS MN312742 343 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 8794 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312742

VERSION MN312742

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 343)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 343)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
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/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"  
/country="China"  
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CDS <1..>343  
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/protein\_id="QGA88362"  
/translation="RAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSEMV  
MCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNLQH  
RLYECLYRNRDV"

#### ORIGIN

1 agagccatgc ctaacatgct taggataatg gcctctcttg ttcttgctcg caaacatagc  
61 acttgctgca acttaccaca ccgtttctat aggttagcta acgagtgtgc gcaagtatta  
121 agtgagatgg tcattgtgtg cggtcacta tatgttaa acaggtggaac atcatcaggt  
181 gatgctacaa ctgcttatgc taatagtgtt ttaatatatt gtcaagctgt tacagctaat  
241 gtaaagcac ttctctcaac tgatggtaaat aagatagctg acaagtatgt ccgcaatcta  
301 caacacagac tttacgagtg tctctacaga aatagggatg tag

//

LOCUS MN312743 368 bp RNA linear VRL 07-NOV-2019  
DEFINITION Tylonycteris bat coronavirus HKU4 isolate 8807 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312743

VERSION MN312743

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 368)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 368)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
 source            1..368  
                   /organism="Tylonycteris bat coronavirus HKU4"  
                   /mol\_type="genomic RNA"  
                   /isolate="8807"  
                   /host="Tylonycteris pachypus"  
                   /db\_xref="taxon:694007"  
                   /country="China"  
 gene              <1..>368  
                   /gene="RdRp"  
 CDS                <1..>368  
                   /gene="RdRp"  
                   /codon\_start=1  
                   /product="RNA-dependent RNA polymerase"  
                   /protein\_id="QGA88363"  
                   /translation="RAMPNMCRILASLILARKHSTCCTNSDRFYRLANCAQVLSEYV  
 LCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIIDREIKDMQF  
 DLYINVYRKVVPDPKFVTSTT"

ORIGIN

1 agagctatgc ctaatatgtg tcgcatttta gcgctattga ttttggcacg taagcatagt  
 61 acttgttga ctaattctga taggttctac cgcctagcta atgagtgtgc tcaagtgtta  
 121 agtgagtatg tcctatgcgg aggggggtat tatgttaaac cagtggttac gagtagtggg  
 181 gatgcaacta ctgcttatgc caatagtgtt tttaacatat tacaagccac caccgctaat  
 241 gttagtgcac taatgagtgc taatggtaat acgatcatag atcgtgaaat aaaggatatg  
 301 caatttgatt tgtatatcaa tgtatataga aaagtagtgc ctgatcctaa atttggaca  
 361 agtactac

//

LOCUS    MN312744            376 bp    RNA    linear    VRL 07-NOV-2019  
 DEFINITION    Tylonycteris bat coronavirus HKU4 isolate 8819 RNA-dependent RNA  
                   polymerase (RdRp) gene, partial cds.

ACCESSION    MN312744

VERSION      MN312744

KEYWORDS     .

SOURCE      Tylonycteris bat coronavirus HKU4

ORGANISM    Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronaviridae;  
 Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE    1 (bases 1 to 376)

AUTHORS     Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
 Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE        Origin and cross-species transmission of bat coronaviruses in China

JOURNAL     Unpublished

REFERENCE    2 (bases 1 to 376)

AUTHORS     Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
 Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE        Direct Submission

JOURNAL     Submitted (13-AUG-2019) Key laboratory of special pathogens and  
 biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
 Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

source            1..376  
                   /organism="Tylonycteris bat coronavirus HKU4"  
                   /mol\_type="genomic RNA"  
                   /isolate="8819"

/host="Tylonycteris pachypus"  
/db\_xref="taxon:694007"  
/country="China"  
gene <1..>376  
/gene="RdRp"  
CDS <1..>376  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88364"  
/translation="KCDRAMPNMCRILASLILARKHSTCCTNSDRFYRLANECAQVLS  
EYVLCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIIDREIKD  
MQFDLYINVYRKVVPDPKLWQVL"

#### ORIGIN

1 aaatgtgac gtgctatgcc taatatgtgt cgcatttag cgtcattgat ttggcacgt  
61 aagcatagta cttgtgttac taattctgat aggttctacc gcttagccaa tgagtgtgct  
121 caagtgttaa gtgagtatgt cctatgcgga ggagggtatt atgttaaacc aggtggtacg  
181 agtagtggtg atgcaactac tgcttatgcc aatagtgttt ttaacatatt acaagccacc  
241 accgctaata ttagtgactc tatgagtgc aatggtaata cgatcataga tcgtgaaata  
301 aaggatatgc aatttgactt gtatatcaat gtatatagaa aagtagtgcc tgatcctaaa  
361 ttgtggcaag tactac

//

LOCUS MN312745 391 bp RNA linear VRL 07-NOV-2019  
DEFINITION Tylonycteris bat coronavirus HKU4 isolate 8820 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312745

VERSION MN312745

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 391)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 391)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..391  
/organism="Tylonycteris bat coronavirus HKU4"  
/mol\_type="genomic RNA"  
/isolate="8820"  
/host="Tylonycteris pachypus"  
/db\_xref="taxon:694007"  
/country="China"  
gene <1..>391  
/gene="RdRp"

CDS <1..>391  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88365"  
/translation="GWDFPKCDRAMPNMCRILASLILARKHSTCCTNSDRFYRLANEC  
AQVLSEYVLCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIID  
REIKDMQFDLYINVYRKVVPDPKLVQVL"

ORIGIN

1 ggttgggatt ttctaaatg tgatcgtgct atgcctaata tgtgtcgcatt ttagcgtca  
61 ttgattttgg cacgtaagca tagtacttgt tgtactaatt ctgatagggt ctaccgctta  
121 gccaatgagt gtgctcaagt gtaagttag atgtcctat gcggaggagg ttattatgtt  
181 aaaccaggtg gtaccagtag tggtagtgc actactgctt atgccaatag tgttttaac  
241 atattacaag ccaccaccgc taatgtagt gcacttatga gtgctaattg taatcagtc  
301 atagatcgtg aataaagga tatgcaatt gactgtata tcaatgtata tagaaaagta  
361 gtgcctgac ctaaattgtg gcaagtacta c

//

LOCUS MN312746 376 bp RNA linear VRL 07-NOV-2019  
DEFINITION Tylonycteris bat coronavirus HKU4 isolate 8821 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312746

VERSION MN312746

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 376)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 376)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..376  
/organism="Tylonycteris bat coronavirus HKU4"  
/mol\_type="genomic RNA"  
/isolate="8821"  
/host="Tylonycteris pachypus"  
/db\_xref="taxon:694007"  
/country="China"

gene <1..>376  
/gene="RdRp"

CDS <1..>376  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88366"



/translation="KCDRAMPNMCRILASLILARKHSTCCTNSDRFYRLANCAQVLS  
EYVLCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIIDREIKD  
MQFDLYINVYRKVVPDPKLWQVL"

ORIGIN

1 aaatgtgac gtgctatgcc taatatgtg cgcatttag cgtcattgat tttggcacgt  
61 aagcatagta cttgtgtac taattctgat aggttctacc gcttagccaa tgagtgtgct  
121 caagtgttaa gtgagtatgt cctatgcgga ggagggtatt atgttaaacc aggtggtacg  
181 agtagtggtg atgcaactac tgcttatgcc aatagtgttt ttaacatatt acaagccacc  
241 accgctaag ttagtgact tatgagtct aatggtaata cgatcataga tcgtgaaata  
301 aaggatatgc aatttgact gtatatcaat gtatatagaa aagtagtgcc tgatcctaaa  
361 ttgtggcaag tactac

//

LOCUS MN312747 369 bp RNA linear VRL 07-NOV-2019  
DEFINITION Tylonycteris bat coronavirus HKU4 isolate 8822 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312747

VERSION MN312747

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 369)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 369)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..369

/organism="Tylonycteris bat coronavirus HKU4"

/mol\_type="genomic RNA"

/isolate="8822"

/host="Tylonycteris pachypus"

/db\_xref="taxon:694007"

/country="China"

gene <1..>369

/gene="RdRp"

CDS <1..>369

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88367"

/translation="PKCDRAMPNMCRILASLILARKHSTCCTNSDRFYRLANCAQVLS

SEYVLCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIIDREIK

DMQFDLYINVYRKVVPDLNCG"

ORIGIN

1 cctaatgtg atcgtgctat gcctaatatg tgtcgcatt tagcgtcatt gattttggca

61 cgtaagcata gtactgttg tactaattct gataggttct accgcttagc caatgagtgt  
121 gctcaagtgt taagtgagta tgcctatgc ggaggagggtt attatgtaa accagtggtg  
181 acgagtagtg gtgatgcaac tactgcttat gccaatagtg ttttaacat attacaagcc  
241 accaccgcta atgttagtgc acttatgagt gctaattgta atacgatcat agatcgtgaa  
301 ataaaggata tgcaatttga cttgtatata aatgtatata gaaaagtagt gcctgaccta  
361 aattgtggc

//

LOCUS MN312748 358 bp RNA linear VRL 07-NOV-2019

DEFINITION Tylonycteris bat coronavirus HKU4 isolate 8823 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312748

VERSION MN312748

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 358)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 358)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..358

/organism="Tylonycteris bat coronavirus HKU4"  
/mol\_type="genomic RNA"  
/isolate="8823"  
/host="Tylonycteris pachypus"  
/db\_xref="taxon:694007"  
/country="China"

gene <1..>358

/gene="RdRp"

CDS <1..>358

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88368"

/translation="VYPNMCRLGSLILARKHSTCCTNSDRFYRLANECAQVLSEYVL  
CGGGYYVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIIDREIKDMQFD  
LYINVYRKVVPDPKLWQ"

ORIGIN

1 tgtgtactct aatatgtgtc gcatttagg gtcattgatt ttggcacgta agcatagtac  
61 ttgtgtact aattctgata ggttctaccg ctagccaat gagtgtgtc aagtgttaag  
121 tgagtatgtc ctatgaggag gagggtatta tgtaaacca ggtggtacga gtagtggtga  
181 tgcaactact gcttatgcca atagtgtttt taacatatta caagccacca ccgctaattg  
241 tagtgcaact atgagtgtc atggaatac gatcatagat cgtgaaataa aggatatgca  
301 atttgacttg tatatcaatg tatatagaaa agtagtgctt gatcctaataa tgtggcaa

//

LOCUS MN312749 362 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat MERS-like coronavirus isolate 8842 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.  
ACCESSION MN312749  
VERSION MN312749

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 362)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 362)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..362

/organism="Bat MERS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="8842"

/host="Vespertilio sinensis"

/db\_xref="taxon:2664423"

/country="China"

gene <1..>362

/gene="RdRp"

CDS <1..>362

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88369"

/translation="MPNMCRIFASLILARKHGTCTTRDRFYRLANECAQVLSEYVLC

GGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNKIVDKEIRDMQFDL

YVNVYRRNMPDQKFVTGT"

ORIGIN

1 tatgcctaac atgtgtagga tttcgcgctc tctgatttg gcacgcaaac atggtacttg  
61 ctgcactacc agagatagat ttaccgctt agccaatgag tgcgctcagg ttttaagtga  
121 gtatgtgtta tgcggtggtg gctactacgt caagccagga ggtacgagta gtggtgatgc  
181 cacaactgca tatccaata gtgtgtttaa cattttgcag gcgacaactg ctaatgtgag  
241 cgcacttatg ggtgctaag gcaacaagat tgttgataaa gaaatcagag acatgcagtt  
301 tgatctgtat gtaaatgttt atagacgtaa tatgcctgat caaaagtttg tgacaggtac  
361 ta

//

LOCUS MN312750 360 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat MERS-like coronavirus isolate 8845 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.  
ACCESSION MN312750

VERSION MN312750

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..360

/organism="Bat MERS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="8845"  
/host="Vespertilio sinensis"  
/db\_xref="taxon:2664423"  
/country="China"

gene <1..>360

/gene="RdRp"

CDS <1..>360

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88370"

/translation="MPNMCRIFASLILARKHGTCTTRDRFYRLANECAQVLSEYVLC

GGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNKIVDKIIRDMQFDL

YVNVYRRNMPDQKFVTGT"

ORIGIN

1 tatgcctaac atgtgtagga ttttgcatac tctgatttg gcacgcaaac atgttacttg  
61 ctgcactacc agagatagat ttaccgctt agccaatgag tgcgctcagg ttttaagtga  
121 gtatgtgtta tgcgggtggtg gttactacgt caagccagga ggtacgagta gtggtgatgc  
181 cacaaccgca tatgccaata gtgtgtttaa cattttgcag gcgacaactg ctaatgtgag  
241 cgcacttatg ggtgctaata gcaacaagat tgttgacaaa gaaatcagag acatgcagtt  
301 tgatctgtat gtaaatgttt atagacgtaa tatgctctgac caaaagtgtg tgacaggtac

//

LOCUS MN312751 362 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat MERS-like coronavirus isolate 8846 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312751

VERSION MN312751

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 362)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 362)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..362

/organism="Bat MERS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="8846"

/host="Vespertilio sinensis"

/db\_xref="taxon:2664423"

/country="China"

gene <1..>362

/gene="RdRp"

CDS <1..>362

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88371"

/translation="MPNMCRIFASLILARKHGTCTTRDRFYRLANECAQVLSEYVLC

GGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNKIVDKKEIRDMQFDL

YVNVYRRNMPDQKFVTGT"

ORIGIN

1 tatgcctaac atgtgtagga tttcgcgctc tctgatttg gcacgcaaac atggtacttg  
61 ctgcactacc agagatagat ttaccgctt agccaatgag tgcgctcagg ttttaagtga  
121 gtatgtttta tgcggtggtg gctactacgt caagccagga ggtacagta gtggtgatgc  
181 cacaactgca tatgccaata gtgtgtttaa cattttgcag gcgacaactg ctaatgtgag  
241 cgcacttatg ggtgctaag gcaacaagat tgttgataaa gaaatcagag acatgcagtt  
301 tgatctgat gtaatgtt atagacgtaa tatgcctgat caaaagttg tgacaggtag  
361 ta

//

LOCUS MN312752 360 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat MERS-like coronavirus isolate 8859 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312752

VERSION MN312752

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..360  
/organism="Bat MERS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="8859"  
/host="Vespertilio sinensis"  
/db\_xref="taxon:2664423"  
/country="China"  
gene <1..>360  
/gene="RdRp"  
CDS <1..>360  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88372"  
/translation="MPNMCRIFASLILARKHGTCCTTRDRFYRLANECAQVLSEYVLC  
GGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNKIVDKIIRDMQFDL  
YVNVYRRNMPDQKFVTGT"

ORIGIN

1 tatgcctaac atgtgtagga tttcgcgctc tctgatttg gcacgcaaac atggtacttg  
61 ctgcactacc agagatagat ttaccgctt agccaatgag tgcgctcagg ttttaagtga  
121 gtatgtgtta tgcggtggtg gctactacgt caagccagga ggtacgagta gtggtgatgc  
181 cacaactgca tatccaata gtgtgtttaa cattttgcag gcgacaactg ctaatgtgag  
241 cgcacttatg ggtgtaacg gcaacaagat tgttgataaa gaaatcagag acatgcagtt  
301 tgatctgat gtaaatgtt atagacgtaa tatgcctgat caaaagtttg tgacaggtac

//

LOCUS MN312753 322 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat MERS-like coronavirus isolate 8863 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312753

VERSION MN312753

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 322)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 322)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..322  
/organism="Bat MERS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="8863"  
/host="Vespertilio sinensis"  
/db\_xref="taxon:2664423"  
/country="China"  
gene <1..>322  
/gene="RdRp"  
CDS <1..>322  
/gene="RdRp"  
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/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88373"  
/translation="MPNMCRIFASLILARKHGTCTTRDRFYRLANECAQVLSEYVLC  
GGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNKIVDKAIRDMHFDL  
YVNVY"

ORIGIN

1 tatgcctaac atgtgtagga tttcgcgctc tctgattttg gcacgcaaac atggtacttg  
61 ctgcactacc agagatagat ttaccgctt agccaatgag tgcgctcagg ttttaagtga  
121 gtatgtgtta tgcgggtggtg gctactacgt caagccagga ggtacgagta gtggtgatgc  
181 cacaactgca tatgccaata gtgtgtttaa cattttgcag gcgacaactg ctaatgtgag  
241 cgcacttatg ggtgctaag gcaacaagat tgttgataaa gaaatcagag acatgcattt  
301 tgatctgtat gtaattgtt at

//

LOCUS MN312754 345 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 8866 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312754

VERSION MN312754

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 345)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 345)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..345  
/organism="Bat betacoronavirus"  
/mol\_type="genomic RNA"  
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/host="Vespertilio sinensis"  
/db\_xref="taxon:1805463"  
/country="China"  
gene <1..>345  
/gene="RdRp"  
CDS <1..>345  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88374"  
/translation="MPNMLRIFASLILARKHTTCCTVSEYYRLANECAQVLSEMVLC  
GGALYVKPGGTSSGDATTAYANSVFNICQAVTANISALLAANGNKIVDVYIRDQLQRKL  
YANVYRSVHVDY"

#### ORIGIN

1 tatgcctaat atgtgctga ttttcgcatc attgattta gccagaaagc acacgacgtg  
61 ttgtactgta agtgaacgat actacagact ggctaatgag tgcgctcaag tattgagtga  
121 gatggttcta tgtggtggtg cttgtatgt gaaaccaggt ggtacttct cgggtgatgc  
181 aaccactgca tatgcaaatt ctgtttcaa catctgtaa gcagtaacgg ccaacatcag  
241 tccttgcta gcagctaatg gaaacaagat agtcgatgtt tacattcgag acttacagcg  
301 taaactgat gcgaatgtct atcgtagtgt ccatgttgat tataa

//

LOCUS MN312755 387 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 8867-1 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312755

VERSION MN312755

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 387)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 387)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..387  
/organism="Bat betacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="8867-1"  
/host="Vespertilio sinensis"  
/db\_xref="taxon:1805463"  
/country="China"  
gene <1..>387  
/gene="RdRp"  
CDS <1..>387



/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88375"  
/translation="MPNMLRIFASLILARKHTTCCTVSEYYRLANECAQVLSEMVLC  
GGALYVKPGGTSSGDATTAYANSVFNICQAVTANISALLAANGNKIVDVYIRDQLQRKL  
YANVYRSVHVDYKFDVDEYYAFLRKHFS"

ORIGIN

1 tatgcctaat atgttgcgta ttttcgcatc attgatttta gccagaaagc acacgacgtg  
61 ttgtactgta agtgaacgat actacagact ggctaatgag tgcgctcaag tattgagtga  
121 gatggttcta tgtggtgggtg ctttgtatgt gaaaccaggt ggtacttctt ccggtgacgc  
181 aaccactgca tatgcaaatt ctgtttcaa catctgtaa gcagtaacgg ccaacatcag  
241 tgccttgcta gcagctaatg gaaacaagat agtcgatgtt tacattcgag acttacagcg  
301 taaactgtat gcgaatgtct atcgtagtgt ccatgttgat tataagtgc tagatgagta  
361 ctacgcattt ttgcgtaaac acttttc

//

LOCUS MN312756 411 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat betacoronavirus isolate 8867-2 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312756

VERSION MN312756

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 411)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 411)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..411  
/organism="Bat betacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="8867-2"  
/host="Vespertilio sinensis"  
/db\_xref="taxon:1805463"  
/country="China"

gene <1..>411  
/gene="RdRp"

CDS <1..>411  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88376"  
/translation="DYPKCDRAMPNMLRIFASLILARKHTTCCTVSEYYRLANEYAQ"

VLSEMVLCGGALYVKPGGTSSGDATTAYANSVFNICQAVTANISALLAANGNKIVDVY  
IRDLQRKLYANVYRSVHVDYK FVDEYYAFLRKHFS"

ORIGIN

1 tgattatcct aatgtgata gagctatgcc taatatgttg cgtattttcg catcattgat  
61 tttagccaga aagcacacga cgtgtgttac tgtaagtga cgaactaca gactggctaa  
121 tgagtacgct caagtattga gtgagatggt tctatgtggt ggtgctttgt atgtgaaacc  
181 aggtggact tectccggtg atgcaaccac tgcatacgca aattctgttt tcaacatctg  
241 tcaagcagta acggccaaca tcagtgcctt gctagcagct aatggaaaca agatagtcga  
301 tgtttacatt cgagacttac agcgtaaact gtatgcgaat gtctatcgta ggtgccatgt  
361 tgattataag ttcgtagatg agtactacgc atttttgcgt aaacactttt c

//

LOCUS MN312757 360 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat MERS-like coronavirus isolate 8868 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312757

VERSION MN312757

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..360

/organism="Bat MERS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="8868"

/host="Vespertilio sinensis"

/db\_xref="taxon:2664423"

/country="China"

gene <1..>360

/gene="RdRp"

CDS <1..>360

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88377"

/translation="MPNMCRIFASLILARKHGTCTTRDRFYRLANECAQVLSEYVLC

GGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNKIVDKEIRDMQFDL

YVNVYRRNMPDQKFVTGT"

ORIGIN

1 tatgcctaac atgtgtagga ttttgcac tctgattttg gcacgcaaac atgtacttg  
61 ctgcactacc agagatagat ttatcgctt agccaatgag tgcgctcagg ttttaagtga

121 gtatgtgta tgcggtggtg gctactacgt caagccagga ggtacgagta gtggtgatgc  
181 cacaactgca tatgccaata gtgtgttaa cattttgcag gcgacaactg ctaatgtgag  
241 cgcacttatg ggtgctaata gcaacaagat tgttgataaa gaaatcagag acatgcagtt  
301 tgatctgtat gtaaatgttt atagacgtaa tatgctctgat caaaagttcg tgacaggtac

//

LOCUS MN312758 411 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat MERS-like coronavirus isolate 8869-1 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312758

VERSION MN312758

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 411)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 411)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..411

/organism="Bat MERS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="8869-1"

/host="Vespertilio sinensis"

/db\_xref="taxon:2664423"

/country="China"

gene <1..>411

/gene="RdRp"

CDS <1..>411

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88378"

/translation="DYPKCDRAMPNMCRIFASLILARKHGTCCTTRDRFYRLANCAQ

VLSEYVLCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNKIVDKE

IRDMQFDLYVNVYRRNMPDQKFVDRYYAFLNKNFS"

ORIGIN

1 tgattatcct aatgtgata gagctatgcc taacatgtgt aggattttg catctctgat  
61 tttggcagc aaacatggta cttgctgcac taccagagat agattttatc gettagccaa  
121 tgagtgcgct caggttttaa gtgagtatgt gttatgcggt ggtggctact acgcaagcc  
181 aggaggtacg agtagtggtg atgccacaac tgcataatgcc aatagtgtgt ttaacattt  
241 gcaggcgaca actgctaata tgagcgcact tatgggtgct aatggcaaca agattgttga  
301 taaagaaatc agagacatgc agtttcatct gtatgttaat gttatagac gtaatatgcc  
361 tgatcaaaag ttcggtgaca ggtactatgc atttctaat aagaattct c

//

LOCUS MN312759 387 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat MERS-like coronavirus isolate 8869-2 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312759

VERSION MN312759

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 387)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 387)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..387

/organism="Bat MERS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="8869-2"

/host="Vespertilio sinensis"

/db\_xref="taxon:2664423"

/country="China"

gene <1..>387

/gene="RdRp"

CDS <1..>387

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88379"

/translation="MPNMCRIFASLILARKHGTCTTRDRFYRLANECAQVLSEYVLC

GGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNKIVDKAIRDMQFDL

YVNVYRRNMPDQKFVDRYYAFLNKNFS"

ORIGIN

1 tatgcctaac atgtgtagga ttttgcac tctgatttg gcacgcaa ac atgttactg  
61 ctgcactacc agagatagat ttatcgctt agccaatgag tgcgctcagg ttttaagtga  
121 gtatgtgtta tgcggtggtg gctactacgt caagccagga ggtacgagta gtggtgatgc  
181 cacaactgca tatgccaata gtgtgtttaa cattttgcag gcgacaactg ctaatgtgag  
241 cgcacttatg ggtgctaag gcaacaagat tgttgataaa gaaatcagag acatgcagtt  
301 tgatctgtat gtaaatgtt atagacgtaa tatgctgat caaaagtgc ttgacaggtg  
361 ctatgcatt ctaataaga atttctc

//

LOCUS MN312760 365 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat MERS-like coronavirus isolate 8870 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312760

VERSION MN312760

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 365)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 365)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..365

/organism="Bat MERS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="8870"

/host="Vespertilio sinensis"

/db\_xref="taxon:2664423"

/country="China"

gene <1..>365

/gene="RdRp"

CDS <1..>365

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88380"

/translation="MPNMCRIFASLILARKHGTCTTRDRFYRLANECAQVLSEYVLC

GGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNKIVDKAIRDMQFDL

YVNVYRRNMPDQKFVTGTM"

ORIGIN

1 tatgcctaac atgtgtagga tttcgcgctc tctgatttg gcacgcaaac atggtacttg  
61 ctgcactacc agagatagat ttaccgctt agccaatgag tgcgctcagg ttttaagtga  
121 gtatgtttta tgcggtggtg gctactacgt caagccagga ggtacgagta gtggtgatgc  
181 cacaactgca tatgccaata gtgtgtttaa cattttgcag gcgacaactg ctaatgtgag  
241 cgcacttatg ggtgctaag gcaacaagat tgttgataaa gaaatcagag acatgcagtt  
301 tgatctgtat gtaaatgttt atagacgtaa tatgcctgat caaagtttg tgacaggtac  
361 tatgc

//

LOCUS MN312761 361 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat MERS-like coronavirus isolate 8874 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312761

VERSION MN312761

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 361)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 361)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..361  
/organism="Bat MERS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="8874"  
/host="Vespertilio sinensis"  
/db\_xref="taxon:2664423"  
/country="China"  
gene <1..>361  
/gene="RdRp"  
CDS <1..>361  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
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ORIGIN

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121 gtatgtgta tgcggtggtg gctactacgt caagccagga ggtacgagta gtggtgatgc  
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241 cgcacttatg ggtgctaata gcaacaagat tgttgataaa gaaatcagag acatgcagtt  
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361 t

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LOCUS MN312762 358 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat MERS-like coronavirus isolate 8875 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312762

VERSION MN312762

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 358)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 358)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..358  
/organism="Bat MERS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="8875"  
/host="Vespertilio sinensis"  
/db\_xref="taxon:2664423"  
/country="China"  
gene <1..>358  
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CDS <1..>358  
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YVNVYRRNMPDQKFVTG"

ORIGIN

1 tatgcctaac atgtgtagga tttcgcgctc tctgatttg gcacgcaaac atggtacttg  
61 ctgcactacc agagatagat ttaccgctt agccaatgag tgcgctcagg ttttaagtga  
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241 cgcacttatg ggtgctaag gcaacaagat tgttgataaa gaaatcagag acatgcagtt  
301 tgatctgtat gtaaatgtt atagacgtaa tatgctgat caaaagttg tgacaggt

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LOCUS MN312763 361 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat MERS-like coronavirus isolate 8889 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312763

VERSION MN312763

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 361)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 361)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
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CDS                <1..>361  
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YVNVYRRNMPDQKFVTGT"

ORIGIN

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241 cgcacttatg ggtgctaacg gcaacaagat tgttgataaa gaaatcagag acatgcagtt  
301 tgatctgtat gtaaatgttt atagacgtaa tatgcctgat caaaagtttg tgacaggtac  
361 t

//

LOCUS    MN312764            359 bp    RNA    linear    VRL 07-NOV-2019  
DEFINITION    Bat MERS-like coronavirus isolate 8891 RNA-dependent RNA polymerase  
                  (RdRp) gene, partial cds.

ACCESSION    MN312764

VERSION      MN312764

KEYWORDS     .

SOURCE      Bat MERS-like coronavirus

ORGANISM    Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE    1 (bases 1 to 359)

AUTHORS     Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
              Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE        Origin and cross-species transmission of bat coronaviruses in China

JOURNAL     Unpublished

REFERENCE    2 (bases 1 to 359)

AUTHORS     Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
              Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE        Direct Submission

JOURNAL     Submitted (13-AUG-2019) Key laboratory of special pathogens and  
              biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
              Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

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/country="China"  
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CDS <1..>359  
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YVNVYRRNMPDQKFVTG"

#### ORIGIN

1 tatgcctaac atgtgtagga ttttgcate tctgatttg gcacgcaaac atggtacttg  
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241 cgcactcatg ggtgctaag gcaacaagat tgttgacaaa gaaatcagag acatgcagtt  
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LOCUS MN312765 360 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat MERS-like coronavirus isolate 8892 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312765

VERSION MN312765

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

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YVNVYRRNMPDQKFVTGT"

ORIGIN

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241 cgcacttatg ggtgctaag gcaacaagat tgttgacaaa gaaatcagag acatgcagtt  
301 tgatctgat gtaattgtt atagacgtaa tatgctgac caaaagttg tgacaggtac

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LOCUS MN312766 363 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat MERS-like coronavirus isolate 8895 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312766

VERSION MN312766

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 363)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 363)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

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CDS <1..>363

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YVNVYRRNMPDQKFVTGT"

ORIGIN

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181 cacaactgca tatgccaata gtgtgtttaa cattttgcag gcgacaactg ctaatgtgag  
241 cgcacttatg ggtgctaag gcaacaagat tgttgataaa gaaatcagag acatgcagtt  
301 tgatctgtat gtaaatgtt atagacgtaa tatgcctgat caaaagtttg tgacaggtac  
361 tat

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LOCUS MN312767 360 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat MERS-like coronavirus isolate 8896 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312767

VERSION MN312767

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..360

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CDS <1..>360

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ORIGIN

1 tatgcctaac atgtgtagga ttttcgcgtc tctgatttg gcacgcaaac atggtacttg  
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121 gtatgtgta tgcggtggtg gctactacgt caagccggga ggtacgagta gtggtgatgc  
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241 cgcgcttatg ggtgctaag gcaacaagat tgttgacaaa gaaattagag acatgcagtt  
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LOCUS MN312768 361 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat MERS-like coronavirus isolate 8904 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312768

VERSION MN312768

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 361)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 361)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..361

/organism="Bat MERS-like coronavirus"

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ORIGIN

1 tatgcctaac atgtgtagga ttttgcate tetgatttg gcacgcaaac atggtacttg  
61 ctgcactacc agatatagat ttaccgctt agccaatgag tgcgctcagg ttttaagtga  
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241 cgcacttatg ggtgctaag gcaacaagat tgttgacaaa gaaatcagag acatgcagtt  
301 tgatctgtat gtaaatgttt atagacgtaa tatgcctgac caaaagtttg tgacaggtac  
361 t

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LOCUS MN312769 361 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat MERS-like coronavirus isolate 8905 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.  
ACCESSION MN312769  
VERSION MN312769  
KEYWORDS .

SOURCE Bat MERS-like coronavirus  
ORGANISM Bat MERS-like coronavirus  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 361)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 361)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers  
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#### ORIGIN

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361 t
```

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LOCUS MN312770 361 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat MERS-like coronavirus isolate 8906 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.  
ACCESSION MN312770  
VERSION MN312770

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 361)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 361)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..361

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/country="China"

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/gene="RdRp"

CDS <1..>361

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ORIGIN

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361 t

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LOCUS MN312771 352 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat MERS-like coronavirus isolate 8907 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312771

VERSION MN312771

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 352)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 352)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..352

/organism="Bat MERS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="8907"

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/db\_xref="taxon:2664423"

/country="China"

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/translation="MPNMCRIFASLILARKHGTCTTRDRFYRLANECAQVLSEYVLC

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YVNVYRRNMPDQKFV"

ORIGIN

1 tatgcctaac atgtgtagga tttcgcgctc tctgatttg gcacgcaaac atggtacttg  
61 ctgcactacc agagatagat ttaccgctt agccaatgag tgcgctcagg ttttaagtga  
121 gtatgtgta tgcggtggtg gctactacgt caagccagga ggtacgagta gtggtgatgc  
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241 cgcaacttat ggtgctaacg gcaacaagat tgttgataaa gaaatcagag acatgcagtt  
301 tgatctgtat gtaatgttt atagacgtaa tatgcctgat caaaagtttg tg

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LOCUS MN312772 359 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat MERS-like coronavirus isolate 8909 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312772

VERSION MN312772

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 359)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 359)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..359  
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/db\_xref="taxon:2664423"  
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CDS <1..>359  
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YVNVYRRNMPDQKFVTG"

#### ORIGIN

1 tatgcctaac atgtgtagga ttttgcac tctgatttg gcacgcaaac atggtacttg  
61 ctgcactacc agagatagat ttaccgctt agccaatgag tgcgctcagg ttttaagtga  
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181 cacaaccgca tatgccaata gtgtgttaa catttgcag gcgacaactg ctaatgtgag  
241 cgcactcatg ggtgctaag gcaacaagat tgttgacaaa gaaatcagag acatgcagtt  
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LOCUS MN312773 361 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat MERS-like coronavirus isolate 8911 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312773

VERSION MN312773

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 361)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 361)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China



FEATURES            Location/Qualifiers  
source            1..361  
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CDS                <1..>361  
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#### ORIGIN

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61 ctgcactacc agagatagat ttaccgctt agccaatgag tgcgctcagg ttttaagtga  
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181 cacaactgca tatccaata gtgtgttcaa cattttgcag gcgacaactg ctaatgtgag  
241 cgcgcttatg ggtgctaag gcaacaagat tgttgacaaa gaaatcagag acatgcagtt  
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361 t

//

LOCUS    MN312774            360 bp    RNA    linear    VRL 07-NOV-2019  
DEFINITION    Bat MERS-like coronavirus isolate 8917 RNA-dependent RNA polymerase  
                  (RdRp) gene, partial cds.

ACCESSION    MN312774

VERSION      MN312774

KEYWORDS     .

SOURCE      Bat MERS-like coronavirus

ORGANISM     Bat MERS-like coronavirus

              Viruses; Riboviria; Nidovirales; Coronaviridae;  
              Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE    1 (bases 1 to 360)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Origin and cross-species transmission of bat coronaviruses in China

JOURNAL      Unpublished

REFERENCE    2 (bases 1 to 360)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Direct Submission

JOURNAL      Submitted (13-AUG-2019) Key laboratory of special pathogens and  
                  biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
                  Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

source            1..360  
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/country="China"  
gene <1..>360  
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CDS <1..>360  
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GGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNKIVDKKEIRDMQFDL  
YVNVYRRNMPDQKFVTGT"

ORIGIN

1 tatgcctaac atgtgtagga ttttcgcgctc tctgattttg gcacgcaaac atggtacttg  
61 ctgcactacc agagatagat ttaccgctt agccaatgag tgcgctcagg ttttaagtga  
121 gtatgtgtta tgcggtggtg gctactacgt caagccagga ggtacgagta gtggtgatgc  
181 cacaactgca tatgccaata gtgtgtttaa cattttgcag gcgacaactg ctaatgtgag  
241 cgcacttatg ggtgctaag gcaacaagat tgttgataaa gaaatcagag acatgcagtt  
301 tgatctgtat gtaattgttt atagacgtaa tatgctctgat caaaagtttg tgacaggtac

//

LOCUS MN312775 361 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat MERS-like coronavirus isolate 8918 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312775

VERSION MN312775

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 361)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 361)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..361  
/organism="Bat MERS-like coronavirus"  
/mol\_type="genomic RNA"  
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/gene="RdRp"  
CDS <1..>361

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YVNVYRRNMPDQKFVTGT"

ORIGIN

1 tatgcctaac atgtgtagga ttttgcgctc tctgatttg gcacgcaaac atggtacttg  
61 ctgcactacc agagatagat ttaccgctt agccaatgag tgcgctcagg ttttaagtga  
121 gtatgtgta tgcggtgggtg gctactacgt caagccggga ggtacgagta gtggtgatgc  
181 cacaactgca tatgccaata gtgtgttcaa cattttgcag gcgacaactg ctaatgtgag  
241 cgcgcttatg ggtgctaata gcaacaagat tgttgacaaa gaaatcagag acatgcagtt  
301 tgatctgat gtaaatgtt atagacgtaa tatgcctgat caaaagttg tgacaggtac  
361 t

//

LOCUS MN312776 360 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat MERS-like coronavirus isolate 8920 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312776

VERSION MN312776

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..360

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/isolate="8920"

/host="Vespertilio sinensis"

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/country="China"

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CDS <1..>360

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ORIGIN

1 tatgcctaac atgtgtagga tttcgcgctc tctgatttg gcacgcaaac atggtacttg  
61 ctgcactacc agagatagat ttaccgctt agccaatgag tgcgctcagg ttttaagtga  
121 gtatgtgta tgcggtggtg gctactacgt caagccagga ggtacgagta gtggtgatgc  
181 cacaactgca tatccaata gtgtgttaa cttttgcag gcgacaactg ctaatgtgag  
241 cgcacttatg ggtgctaag gcaacaagat tgttgataaa gaaatcagag acatgcagtt  
301 tgatctgat gtaaatgtt atagacgtaa tatgcctgat caaaagttg tgacaggtac

//

LOCUS MN312777 348 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat MERS-like coronavirus isolate 8921 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312777

VERSION MN312777

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 348)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 348)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..348

/organism="Bat MERS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="8921"

/host="Vespertilio sinensis"

/db\_xref="taxon:2664423"

/country="China"

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/gene="RdRp"

CDS <1..>348

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

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GGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNKIVDKAIRDMQFDL  
YVNVYRRNMPDQK"

ORIGIN

1 tatgcctaac atgtgtagga tttcgcgctc tctgatttg gcacgcaaac atggtacttg  
61 ctgcactacc agagatagat ttaccgctt agccaatgag tgcgctcagg ttttaagtga  
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181 cacaactgca tatgccaata gtgtgtttaa cattttgcag gcgacaactg ctaatgtgag  
241 cgcacttatg ggtgctaag gcaacaagat tgttgataaa gaaatcagag acatgcagtt  
301 tgatctgtat gtaaatgttt atagacgtaa tatgcctgat caaaagtt

//

LOCUS MN312778 407 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat MERS-like coronavirus isolate 8923 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312778

VERSION MN312778

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 407)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 407)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..407

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/mol\_type="genomic RNA"

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CDS <1..>407

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1 tggattatcc taaatgtgat agagctatgc ctaacatgtg taggatttc gcgtctctga  
61 tttggcagc caaacatggt acttgctgca ctaccagaga tagattttac cgcttagcca  
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241 tgcaggcgac aactgctaag gtgagcgac ttatgggtgc taatggcaac aagattgtg  
301 ataaagaaat cagagacatg cagtttgatc tgatgttaa ttttataga cgtaatatgc  
361 ctgatcaaaa gtttgtgaca ggtactatgc attctattg ggagccc

//

LOCUS MN312779 360 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat MERS-like coronavirus isolate 8924 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312779

VERSION MN312779

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae; Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J., Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J., Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..360

/organism="Bat MERS-like coronavirus"

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/host="Vespertilio sinensis"

/db\_xref="taxon:2664423"

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ORIGIN

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61 ctgcactacc agagatagat ttaccgctt agccaatgag tgcgctcagg ttttaagtga

121 gtatgtgta tgcggtggtg gttactacgt caagccagga ggtacgagta gtggtgatgc

181 cacaaccgca tatgccaata gtgtgtttaa cattttgcag gcgacaactg ctaatgtgag

241 cgcactcatg ggtgctaag gcaacaagat tgttgacaaa gaaatcagag acatgcagtt

301 tgatctgtat gtaatgttt atagacgtaa tatgcctgac caaaagttag tgacaggtac

//

LOCUS MN312780 361 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat MERS-like coronavirus isolate 8933 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312780

VERSION MN312780

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 361)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 361)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..361

/organism="Bat MERS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="8933"  
/host="Vespertilio sinensis"  
/db\_xref="taxon:2664423"  
/country="China"

gene <1..>361

/gene="RdRp"

CDS <1..>361

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/product="RNA-dependent RNA polymerase"  
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ORIGIN

1 tatgcctaac atgtgtagga tttcgcgctc tctgatttg gcacgcaaac atggtacttg  
61 ctgcactacc agagatagat ttaccgctt agccaatgag tgcgctcagg ttttaagtga  
121 gtatgtgtta tgcggtggtg gctactacgt caagccagga ggtacgagta gtggtgatgc  
181 cacaactgca tatccaata gtgtgtttaa cattttgcag gcgacaactg ctaatgtgag  
241 cgcacttatg ggtgctaacg gcaacaagat tgttgataaa gaaatcagag acatgcagtt  
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361 t

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LOCUS MN312781 360 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat MERS-like coronavirus isolate 8935 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312781

VERSION MN312781

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 360)  
AUTHORS Latinne, A., Hu, B., Zhu, G., Zhang, L., Olival, K. J.,  
Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..360  
/organism="Bat MERS-like coronavirus"  
/mol\_type="genomic RNA"  
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/host="Vespertilio sinensis"  
/db\_xref="taxon:2664423"  
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/product="RNA-dependent RNA polymerase"  
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/translation="MPNMCRIFASLILARKHGTCTTRDRFYRLANECAQVLSEYVLC  
GGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNKIVDKIIRDMQFDL  
YVNVYRRNMPDQKFVTGT"

#### ORIGIN

1 tatgcctaac atgtgtagga ttttgcac tctgatttg gcacgcaaac atgttacttg  
61 ctgcactacc agagatagat ttaccgctt agccaatgag tgcgctcagg ttttaagtga  
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181 cacaaccgca tatgccaata gtgtgtttaa cattttgcag gcgacaactg ctaatgtgag  
241 cgcacttatg ggtgctaata gcaacaagat tgttgacaaa gaaatcagag acatgcagtt  
301 tgatctgtat gtaattgtt atagacgtaa tatgctctgac caaaagtctg tgacaggtac

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LOCUS MN312782 359 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat MERS-like coronavirus isolate 8937 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312782

VERSION MN312782

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 359)

AUTHORS Latinne, A., Hu, B., Zhu, G., Zhang, L., Olival, K. J.,

Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 359)

AUTHORS Latinne, A., Hu, B., Zhu, G., Zhang, L., Olival, K. J.,

Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.



TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..359  
/organism="Bat MERS-like coronavirus"  
/mol\_type="genomic RNA"  
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/host="Vespertilio sinensis"  
/db\_xref="taxon:2664423"  
/country="China"  
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CDS <1..>359  
/gene="RdRp"  
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/product="RNA-dependent RNA polymerase"  
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/translation="MPNMCRIFASLILARKHGTCTTRDRFYRLANECAQVLSEYVLC  
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YVNVYRRNMPDQKFVTG"

ORIGIN

1 tatgcctaac atgtgtagga tttcgcgctc tctgatttg gcacgcaaac atggtacttg  
61 ctgcactacc agagatagat ttaccgctt agccaatgag tgcgctcagg ttttaagtga  
121 gtatgtgta tgcggtggtg gctactacgt caagccagga ggtacgagta gtggtgatgc  
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241 cgcacttatg ggtgctaag gcaacaagat tgttgataaa gaaatcagag acatgcagtt  
301 tgatctgtat gtaatgttt atagacgtaa tatgctgat caaaagtttg tgacagta

//

LOCUS MN312783 399 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat MERS-like coronavirus isolate 8941 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312783

VERSION MN312783

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..399

/organism="Bat MERS-like coronavirus"  
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/host="Vespertilio sinensis"  
/db\_xref="taxon:2664423"  
/country="China"  
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CDS <1..>399  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88403"  
/translation="AMPNMCRI FASLILARKHGTCCTTRDRFYRLANECAQVLSEYVL  
CGGGYYVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNKIVDKAIRDMQFD  
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#### ORIGIN

1 gctatgccta acatgtgtag gattttgca tctctgattt tggcagcaa acatgttact  
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121 gagtatgtgt tatgcggtgg tggctactac gtcaagccag gaggtacgag tagtgggtgat  
181 gccacaactg catatgcaa tagtgtgtt aacatttgc aggcgacaac tgctaattgt  
241 agcgcactta tgggtgctaa tggcaacaag attgttgata aagaaatcag agacatgcag  
301 tttgatctgt atgttaatgt ttatagacgt aatatgcctg atcaaaagtt cgttgacagg  
361 tactatgcat ttcttaataa gaatttctct atgatgatt

//

LOCUS MN312784 366 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat MERS-like coronavirus isolate 8942 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.  
ACCESSION MN312784  
VERSION MN312784  
KEYWORDS .  
SOURCE Bat MERS-like coronavirus  
ORGANISM Bat MERS-like coronavirus  
Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.  
REFERENCE 1 (bases 1 to 366)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 366)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
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/organism="Bat MERS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="8942"  
/host="Vespertilio sinensis"  
/db\_xref="taxon:2664423"

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/gene="RdRp"  
CDS <1..>366  
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/translation="MPNMCRIFASLILARKHGTCTTRDRFYRLANECAQVLSEYVLC  
GGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNKIVDKAIRDMQFDL  
YVNVYRRNMPDQKFVTGTM"

#### ORIGIN

1 tatgcctaac atgtgtagga ttttgcac tctgatttg gcacgcaaac atggacttg  
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121 gtatgtgta tgcggtggtg gctactacgt caagccagga ggtacgagta gtggtgatgc  
181 cacaactgca tatccaata gtgtgttaa cattttgcag gcgacaactg ctaatgtgag  
241 cgcacttatg ggtgctaag gcaacaagat tgttgataaa gaaatcagag acatgcagtt  
301 tgatctgat gtaatgttt atagacgtaa tatgcctgat caaaagttcg tgacaggtac  
361 tatgca

//

LOCUS MN312785 359 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat MERS-like coronavirus isolate 8946 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312785

VERSION MN312785

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 359)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 359)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..359  
/organism="Bat MERS-like coronavirus"  
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/country="China"  
gene <1..>359  
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CDS <1..>359  
/gene="RdRp"

/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
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/translation="MPNMCRIFASLILARKHGTCTTRDRFYRLANECAQVLSEYVLC  
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YVNVYRRNMPDQKFVTG"

ORIGIN

1 tatgcctaac atgtgtagga ttttcgcgtc tctgatttg gcacgcaaac atggtacttg  
61 ctgcactacc agagatagat ttaccgctt agccaatgag tgcgctcagg ttttaagtga  
121 gtatgtgta tgcggtggtg gctactacgt caagccagga ggtacgagta gtggtgatgc  
181 cacaactgca tatgccaata gtgtgttaa cattttgcag gcgacaactg ctaatgtgag  
241 cgcacttatg ggtgctaata gcaacaagat tgttgataaa gaaatcagag acatgcagtt  
301 tgatctgat gtaattgtt atagacgtaa tatgcctgat caaaagtttg tgacaggtg

//

LOCUS MN312786 364 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat MERS-like coronavirus isolate 8947 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312786

VERSION MN312786

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 364)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 364)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..364

/organism="Bat MERS-like coronavirus"

/mol\_type="genomic RNA"

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/host="Vespertilio sinensis"

/db\_xref="taxon:2664423"

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/gene="RdRp"

CDS <1..>364

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88406"

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YVNVYRRNMPDQKFVTGTM"

ORIGIN

1 tatgcctaac atgtgtagga ttttgcac tctgatttg gcacgcaaac atgttactg  
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241 cgcacttatg ggtgctaag gcaacaagat tgttgataaa gaaatcagag acatgcagtt  
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361 tatg

//

LOCUS MN312787 364 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat MERS-like coronavirus isolate 8952 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312787

VERSION MN312787

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 364)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 364)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..364

/organism="Bat MERS-like coronavirus"  
/mol\_type="genomic RNA"  
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/host="Vespertilio sinensis"  
/db\_xref="taxon:2664423"  
/country="China"

gene <1..>364

/gene="RdRp"

CDS <1..>364

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/product="RNA-dependent RNA polymerase"  
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/translation="MPNMCRIFASLILARKHGTCTTRDRFYRLANECAQVLSEYVLC  
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YVNVYRRNMPDQKFVTGTM"

ORIGIN

1 tatgcctaac atgtgtagga ttttgcgctc tctgatttg gcacgcaaac atgttactg  
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361 tatg

//

LOCUS MN312788 365 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat MERS-like coronavirus isolate 8955 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312788

VERSION MN312788

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 365)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 365)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..365

/organism="Bat MERS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="8955"

/host="Vespertilio sinensis"

/db\_xref="taxon:2664423"

/country="China"

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/gene="RdRp"

CDS <1..>365

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88408"

/translation="MPNMCRIFASLILARKHGTCTTRDRFYRLANCAQVLSEYVLC

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YVNVYRRNMPDQKFVTGTM"

ORIGIN

1 tatgcctaac atgtgtagga ttttcgctc tctgatttg gcacgcaaac atggtacttg  
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241 cgcacttatg ggtgctaag gcaacaagat tgttgataaa gaaatcagag acatgcagtt  
301 tgatctgtat gtaaatgttt atagacgtaa tatgcctgat caaaagtttg tgacaggtag  
361 tatgc

//

LOCUS MN312789 364 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat betacoronavirus isolate 8956 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312789

VERSION MN312789

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae; Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 364)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J., Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 364)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J., Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..364

/organism="Bat betacoronavirus"

/mol\_type="genomic RNA"

/isolate="8956"

/host="Hipposideros pratti"

/db\_xref="taxon:1805463"

/country="China"

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CDS <1..>364

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/product="RNA-dependent RNA polymerase"

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YANVYRSVHVVDYKFDVEYY"

ORIGIN

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61 ttgtactgta agtgaacgat actacagact ggctaatgag tgcgctcaag tattgagtga  
121 gatggttcta tgtggtggtg ctttgtatgt gaaaccaggt ggtacttct ccggtgatgc  
181 aaccttgca tatgcaaatt ctgtttcaa catctgtaa gcagtaacgg ccaacatcag  
241 tgccttgcta gcagctaatg gaaacaagat agtcgatgtt tacattcgag acttacagcg  
301 taaactgat gcgaatgtct atcgtagtgt ccatgttgat tataagttcg tagatgagta  
361 ctac

//

LOCUS MN312790 345 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat betacoronavirus isolate 8958 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312790

VERSION MN312790

KEYWORDS .

SOURCE Bat betacoronavirus  
ORGANISM Bat betacoronavirus  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.  
REFERENCE 1 (bases 1 to 345)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 345)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
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#### ORIGIN

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LOCUS MN312791 364 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 8959 RNA-dependent RNA polymerase  
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ACCESSION MN312791  
VERSION MN312791  
KEYWORDS .

SOURCE Bat betacoronavirus  
ORGANISM Bat betacoronavirus  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.  
REFERENCE 1 (bases 1 to 364)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,



Zambrana-Torrelío,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 364)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrelío,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
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LOCUS MN312792 367 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 8960 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.  
ACCESSION MN312792  
VERSION MN312792  
KEYWORDS .  
SOURCE Bat betacoronavirus  
ORGANISM Bat betacoronavirus  
Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.  
REFERENCE 1 (bases 1 to 367)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrelío,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 367)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.

TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
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#### ORIGIN

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361 ctacgca

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LOCUS MN312793 367 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 8966 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312793

VERSION MN312793

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 367)

AUTHORS Latinne, A., Hu, B., Zhu, G., Zhang, L., Olival, K. J.,

Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 367)

AUTHORS Latinne, A., Hu, B., Zhu, G., Zhang, L., Olival, K. J.,

Zambrana-Torrel, C., Li, B., Zhang, W., Shi, Z. and Daszak, P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
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ORIGIN

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LOCUS    MN312794            364 bp    RNA    linear    VRL 07-NOV-2019  
 DEFINITION    Bat betacoronavirus isolate 8967 RNA-dependent RNA polymerase  
                   (RdRp) gene, partial cds.

ACCESSION    MN312794

VERSION      MN312794

KEYWORDS     .

SOURCE      Bat betacoronavirus

ORGANISM     Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
 Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE    1 (bases 1 to 364)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
 Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Origin and cross-species transmission of bat coronaviruses in China

JOURNAL      Unpublished

REFERENCE    2 (bases 1 to 364)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
 Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Direct Submission

JOURNAL      Submitted (13-AUG-2019) Key laboratory of special pathogens and  
 biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
 Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

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ORIGIN

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361 ctac

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LOCUS MN312795 363 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 8978 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312795

VERSION MN312795

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 363)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 363)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

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361 cta

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LOCUS MN312796 363 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 8986 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312796

VERSION MN312796

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 363)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 363)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

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361 cta

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LOCUS MN312797 367 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 8991 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312797

VERSION MN312797

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 367)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 367)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

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LOCUS MN312798 367 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat betacoronavirus isolate 8993 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312798

VERSION MN312798

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 367)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 367)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

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TITLE Direct Submission

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biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

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ORIGIN

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361 ctacgca  
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LOCUS MN312799 367 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 8996 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.  
ACCESSION MN312799  
VERSION MN312799  
KEYWORDS .  
SOURCE Bat betacoronavirus  
ORGANISM Bat betacoronavirus  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.  
REFERENCE 1 (bases 1 to 367)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 367)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
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ORIGIN

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361 ctacgca

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LOCUS MN312800 367 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 8998 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.



ACCESSION MN312800

VERSION MN312800

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 367)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 367)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..367

/organism="Bat betacoronavirus"

/mol\_type="genomic RNA"

/isolate="8998"

/host="Hipposideros pratti"

/db\_xref="taxon:1805463"

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ORIGIN

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361 ctacgca

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LOCUS MN312801 367 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat betacoronavirus isolate 8999 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312801

VERSION MN312801

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 367)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 367)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

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/mol\_type="genomic RNA"

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/host="Hipposideros pratti"

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ORIGIN

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361 ctacgca

//

LOCUS MN312802 367 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat betacoronavirus isolate 9000 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312802

VERSION MN312802

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 367)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 367)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

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YANVYRSVHVDYKQVDEYYA"

ORIGIN

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361 ctacgca

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LOCUS MN312803 364 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat betacoronavirus isolate 9006 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312803

VERSION MN312803

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 364)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 364)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
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ORIGIN

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LOCUS MN312804 367 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 9007 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312804

VERSION MN312804

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 367)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 367)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

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#### ORIGIN

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181 aaccactgca tatgcaaatt ctgtttcaa catctgtcaa gcagtaacgg ccaacatcag  
241 tgccttgcta gcagctaata gaaacaagat agtcgatgtt tacattcgag acttacagcg  
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361 ctacgca

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LOCUS MN312805 323 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 9012 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312805

VERSION MN312805

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 323)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 323)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

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#### ORIGIN

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301 taaactgtat gcaatgtct atc

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LOCUS MN312806 367 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 9015 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312806

VERSION MN312806

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 367)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 367)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

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ORIGIN

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361 ctacgca

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LOCUS MN312807 367 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 9016 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312807

VERSION MN312807

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 367)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 367)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

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ORIGIN

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361 ctacgca

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LOCUS MN312808 366 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 9018 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312808

VERSION MN312808

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 366)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 366)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

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ORIGIN

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361 ctacgc

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LOCUS MN312809 367 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 9032 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312809

VERSION MN312809

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 367)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 367)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..367

/organism="Bat betacoronavirus"

/mol\_type="genomic RNA"

/isolate="9032"

/host="Hipposideros pratti"

/db\_xref="taxon:1805463"

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LOCUS MN312810 364 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 9037 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312810

VERSION MN312810

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 364)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 364)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..364

/organism="Bat betacoronavirus"

/mol\_type="genomic RNA"

/isolate="9037"

/host="Hipposideros pratti"

/db\_xref="taxon:1805463"

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CDS <1..>364

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ORIGIN

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LOCUS MN312811 360 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat betacoronavirus isolate 9041 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312811

VERSION MN312811

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..360

/organism="Bat betacoronavirus"

/mol\_type="genomic RNA"

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/gene="RdRp"

CDS <1..>360

/gene="RdRp"

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ORIGIN

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LOCUS MN312812 367 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat betacoronavirus isolate 9042 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312812

VERSION MN312812

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 367)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 367)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

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ORIGIN

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361 ctacgca

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LOCUS MN312813 387 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate 9043 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312813

VERSION MN312813

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 387)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 387)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

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ORIGIN

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241 tgccttgcta gcagctaata gaaacaagat agtcgatgtt tacattcgag acttacagcg  
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361 ctacgcattt ttgcgtaa accttttc

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LOCUS MN312814 387 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 9201 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312814

VERSION MN312814

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 387)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 387)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
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LOCUS    MN312815            387 bp    RNA    linear    VRL 07-NOV-2019  
DEFINITION    Bat SARS-like coronavirus isolate 9214 RNA-dependent RNA polymerase  
                  (RdRp) gene, partial cds.

ACCESSION    MN312815

VERSION      MN312815

KEYWORDS     .

SOURCE       Bat SARS-like coronavirus

ORGANISM     Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE    1 (bases 1 to 387)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Origin and cross-species transmission of bat coronaviruses in China

JOURNAL      Unpublished

REFERENCE    2 (bases 1 to 387)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Direct Submission

JOURNAL      Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

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#### ORIGIN

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LOCUS MN312816 387 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 9215 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312816

VERSION MN312816

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 387)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 387)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

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ORIGIN  
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LOCUS MN312817 367 bp RNA linear VRL 07-NOV-2019  
 DEFINITION Bat betacoronavirus isolate 9287 RNA-dependent RNA polymerase  
 (RdRp) gene, partial cds.  
 ACCESSION MN312817  
 VERSION MN312817  
 KEYWORDS .  
 SOURCE Bat betacoronavirus  
 ORGANISM Bat betacoronavirus  
 Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
 Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 367)  
 AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
 Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
 TITLE Origin and cross-species transmission of bat coronaviruses in China  
 JOURNAL Unpublished

REFERENCE 2 (bases 1 to 367)  
 AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
 Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
 TITLE Direct Submission  
 JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
 biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
 Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers  
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ORIGIN

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361 ctacgca

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LOCUS MN312818 364 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate 9400 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312818

VERSION MN312818

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 364)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 364)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..364

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GGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNLQHRL  
YECLYRNRDVEDHEFVDEFT"

ORIGIN

1 catgcctaac atgcttagga taatggcctc tctgttctt gctcgcaaac atagcacttg  
61 ctgtaacttg tcacaccgtt tctacagggt agctaatgag tgtgcgcaag tattaagtga  
121 gatggtcatg tgtggcggt cactatatgt taaaccagggt ggaacatcat ccggtgatgc  
181 tacaactgct tatgctaata gtgtctttaa catttgtaa gctgttacag ccaatgtaaa  
241 tgcactcctt tcaactgatg gtaacaagat agctgacaag tacgtccgca atctacaaca  
301 caggctttat gagtgtctct atagaaatag ggatgttgat catgaattcg tggatgagtt  
361 tacg

//

LOCUS MN312819 360 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 9403 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312819

VERSION MN312819

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..360

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="9403"

/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>360

/gene="RdRp"

CDS <1..>360

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88439"

/translation="MPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSEVMVC

GGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNLQHRL

YECLYRNRDVEDHEFVDE"

ORIGIN

1 catgcctaac atgcttagga taatggcctc tctgttctt gctcgcaaac atagcacttg  
61 ctgtaacttg tcacaccgtt tctacagggt agctaatgag tgtgcgcaag tattaagtga  
121 gatggtcatg tgtggcggt cactatatgt taaaccagggt ggaacatcat ccggtgatgc  
181 tacaactgct tatgctaata gtgtctttaa catttgtaa gctgttacag ccaatgtaaa  
241 tgcactcctt tcaactgatg gtaacaagat agctgacaag tacgtccgca atctacaaca

301 caggctttat gaggctctct atagaaatag ggatgtgat catgaattcg tggatgagtt

//

LOCUS MN312820 360 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 9406 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312820

VERSION MN312820

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 360)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..360

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="9406"

/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>360

/gene="RdRp"

CDS <1..>360

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88440"

/translation="MPNMLRIMASLV LARKHSTCCNLSHRFYRLANECAQVLSEVMVC

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YECLYRNRDVDHEFVDE"

ORIGIN

1 catgcctaac atgcttagga taatggcctc tctgttctt gctcgcaaac atagcacttg

61 ctgtaacttg tcacaccgtt tctacagggt agctaagag tgtgcgcaag tattaagtga

121 gatggtcatg tgtggcggct cactatatgt taaaccagggt ggaacatcat cgggtgatgc

181 tacaactgct tatgctaata gttctttaa catttgtaa gctgttacag ccaatgtaa

241 tgcactcctt tcaactgatg gtaacaagat agctgacaag tacgtccgca atctacaaca

301 caggctttat gaggctctct atagaaatag ggatgtgat catgaattcg tggatgagtt

//

LOCUS MN312821 358 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate 9408 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312821

VERSION MN312821

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 358)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 358)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..358

/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="9408"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"  
/country="China"

gene <1..>358

/gene="RdRp"

CDS <1..>358

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88441"

/translation="MPNMLRIMASLVLARKHSTCCNLSHRFYRLANCAQVLSEMVMC

GGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNLQHRL

YECLYRNRDVDHEFVDE"

ORIGIN

1 catgcctaac atgcttagga taatggcctc tctgttctt gctcgcaaac atagcacttg  
61 ctgtaacttg tcacaccgtt tctacagggt agctaatgag tgtgcgcaag tattaagtga  
121 gatggtcatg tgtggcggt cactatatgt taaaccaggt ggaacatcat cgggtgatgc  
181 tacaactgct tatgctaata gtgtcttaa cattgtcaa gctgttacag ccaatgtaaa  
241 tgcactcctt tcaactgatg gtaacaagat agctgacaag tacgtccgca atctacaaca  
301 caggctttat gagtgtctct atagaaatag ggatgttgat catgaattcg tggatgag

//

LOCUS MN312822 352 bp RNA linear VRL 07-NOV-2019

DEFINITION Tylonycteris bat coronavirus HKU4 isolate GZ131656 RNA-dependent  
RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312822

VERSION MN312822

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 352)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 352)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..352  
/organism="Tylonycteris bat coronavirus HKU4"  
/mol\_type="genomic RNA"  
/isolate="GZ131656"  
/host="Tylonycteris pachypus"  
/db\_xref="taxon:694007"  
/country="China"  
gene <1..>352  
/gene="RdRp"  
CDS <1..>352  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88442"  
/translation="KHSTCCTNSDRFYRLANCAQVLSEYVLCGGGYVVKPGGTSSGD  
ATTAYANSVFNILQATTANVSALMSANGNTIIDREIKDMQFDLYINVYRKVVPDPKFV  
DKYYAFLNKHFSMM"

ORIGIN

1 gtaagcatag tactgtgtg actaattctg atagttcta ccgctagct aatgagtgtg  
61 ctcaagtgtt aagtgagtat gtcctatgcg gaggggggta ttatgttaa ccaggtgta  
121 cgagtagtgg tgatgcaact actgctatg ccaatagtgt ttttaacata ttacaagcca  
181 ccaccgctaa tgttagtgca ctaatgagtg ctaatggtaa tacgatcata gatcgtgaaa  
241 taaaggatat gcaattgat ttgtatatca atgtatatag aaaagtagtg cctgaccta  
301 aattgttga caagtactac gcatttetta ataacactt ttctatgatg at

//

LOCUS MN312823 352 bp RNA linear VRL 07-NOV-2019  
DEFINITION Tylonycteris bat coronavirus HKU4 isolate GZ131657 RNA-dependent  
RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312823

VERSION MN312823

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 352)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 352)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..352  
/organism="Tylonycteris bat coronavirus HKU4"  
/mol\_type="genomic RNA"  
/isolate="GZ131657"  
/host="Tylonycteris pachypus"  
/db\_xref="taxon:694007"  
/country="China"  
gene <1..>352  
/gene="RdRp"  
CDS <1..>352  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88443"  
/translation="RKHSTCCTNSDRFYRLANECAQVLSEYVLCGGGYVVKPGGTSSG  
DATTAYANSVFNILQATTANVSALMSANGNTIIDREIKDMQFDLYINVYRKVVPDPKF  
VDKYYAFLNKHFSMM"

#### ORIGIN

1 cgtaagcata gtacttgtg tactaattct gataggttct accgcctagc taatgagtgt  
61 gctcaagtgt taagtgagta tgcctatgc ggaggggggtt attatgtaa accaggtggt  
121 acgagtagtg gtgatgcaac tactgcttat gccaatagtg ttttaacat attacaagcc  
181 accaccgcta atgttagtgc actaatgagt gctaatggta atacgatcat agatcgtgaa  
241 ataaaggata tgcaattga tttgtatc aatgtatata gaaaagtagt gcctgatcct  
301 aaatttgtg acaagtacta cgcatttctt aataaacact tttctatgat ga

//

LOCUS MN312824 327 bp RNA linear VRL 07-NOV-2019  
DEFINITION Tylonycteris bat coronavirus HKU4 isolate GZ131658 RNA-dependent  
RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312824

VERSION MN312824

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 327)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 327)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
source            1..327  
                  /organism="Tylonycteris bat coronavirus HKU4"  
                  /mol\_type="genomic RNA"  
                  /isolate="GZ131658"  
                  /host="Tylonycteris pachypus"  
                  /db\_xref="taxon:694007"  
                  /country="China"  
gene              <1..>327  
                  /gene="RdRp"  
CDS                <1..>327  
                  /gene="RdRp"  
                  /codon\_start=3  
                  /product="RNA-dependent RNA polymerase"  
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                  GGYYVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIIDREIKDMQFDLY  
                  INVYRK"

#### ORIGIN

1 tgcctaatat gtgtcgcat ttagcgtcat tgatttggc acgtaagcat agtacttgtt  
61 gtactaatc tgataggtc taccgcctag ctaatgagtg tgctcaagtg ttaagtgagt  
121 atgcctatg cggagggggt tattatgta aaccaggtgg tacgagtagt ggtgatgcaa  
181 ctactgctta tgccaatagt gttttaaca tattacaagc caccaccgct aatgttagtg  
241 cactaatgag tgctaagtg aatacgatca tagatcgtga aataaaggat atgcaatttg  
301 attgtatat caatgtatat agaaaag

//

LOCUS    MN312825            348 bp    RNA    linear    VRL 07-NOV-2019  
DEFINITION    Tylonycteris bat coronavirus HKU4 isolate GZ131660 RNA-dependent  
                  RNA polymerase (RdRp) gene, partial cds.

ACCESSION    MN312825

VERSION      MN312825

KEYWORDS     .

SOURCE      Tylonycteris bat coronavirus HKU4

ORGANISM    Tylonycteris bat coronavirus HKU4

              Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
              Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE    1 (bases 1 to 348)

AUTHORS     Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
              Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE        Origin and cross-species transmission of bat coronaviruses in China

JOURNAL     Unpublished

REFERENCE    2 (bases 1 to 348)

AUTHORS     Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
              Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE        Direct Submission

JOURNAL     Submitted (13-AUG-2019) Key laboratory of special pathogens and  
              biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
              Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

source            1..348  
                  /organism="Tylonycteris bat coronavirus HKU4"  
                  /mol\_type="genomic RNA"  
                  /isolate="GZ131660"  
                  /host="Tylonycteris pachypus"

/db\_xref="taxon:694007"  
/country="China"  
gene <1..>348  
/gene="RdRp"  
CDS <1..>348  
/gene="RdRp"  
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/translation="KHSTCCTNSDRFYRLANCAQVLSEYVLCGGGYVVKPGGTSSGD  
ATTAYANSVFNILQATTANVSALMSANGNTIIDREIKDMQFDLYINVYRKVVPDPKFV  
DKYYAFLNKHFSMM"

#### ORIGIN

1 aagcatagta cttgtgtac taattctgat aggttctacc gcctagctaa tgagtgtgct  
61 caagtgttaa gtagtatgt cctatgcgga ggggggtatt atgttaaacc aggtggtacg  
121 agtagtggtg atgcaactac tgcttatgcc aatagtgttt ttaacatatt acaagccacc  
181 accgctaata gtagtgact aatgagtgc aatggttaata cgatcataga tcgtgaaata  
241 aaggatatgc aatttgattt gtatatcaat gtatatagaa aagtagtgcc tgatcctaaa  
301 ttgttgaca agtactacgc atttctaat aaacactttt ctatgatg

//

LOCUS MN312826 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate HD131601 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312826

VERSION MN312826

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="HD131601"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>402  
/gene="RdRp"  
CDS <1..>402  
/gene="RdRp"



/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88446"  
/translation="RAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSEMV  
MCGGSLYVKPGGPSSGDATTAYANSVFNICQAVTANVNALLSTDGNGKIADKYVRNLQH  
RLYECLYRNRDVDHEFVDEFYAYLRKHFSMMI"

ORIGIN

1 agagccatgc ctaacatgct tagaattatg gcttctcttg ttcttgctcg caaacatagc  
61 acttggtgta actgtcaca ccgtttctat agattagcta atgagtgtgc acaagtatta  
121 agtgagatgg tcattgtcgg aggctcacta tatgtaaacc caggtggacc atcatcaggt  
181 gatgccacaa ctgcctacgc taatagtgtg ttaacattt gtcaagctgt gacagctaat  
241 gtaaatgcac ttctctcaac tgatggtaac aagattgctg acaagtacgt tcgcaacctc  
301 caacacaggc tatatgagtg ttctctataga aatagagacg ttgatcatga atttgggat  
361 gaattttacg cgtatttgcg taagcacttc tctatgatga tt

//

LOCUS MN312827 408 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat betacoronavirus isolate HK140592 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312827

VERSION MN312827

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..408  
/organism="Bat betacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="HK140592"  
/host="Cynopterus sphinx"  
/db\_xref="taxon:1805463"  
/country="China"

gene <1..>408  
/gene="RdRp"

CDS <1..>408  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88447"  
/translation="CDRAMPNLLRIFASLILARKHSTCCNASERFYRLANECAQVLSE  
MVLCCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNGKIYTTYVQEL

QRRLYMGIIYRTNTVDNDLVLDYYNYLRKHFSMMI"

ORIGIN

1 tgtgatagag ctatgccccaa ctgtgtgcgt atatttgcca gtctaatttt ggcgcgaaaa  
61 cactctactt gctgcaatgc ctctgaaaga tttataggt tagcaaatga gtgtgccccaa  
121 gtgcttagtg agatggtttt atgtggaggt ggattctatg taaaaccagg aggtacaagt  
181 agtggcgatt ccaccactgc atatgcaa atgtgtgttta atatttgcca agcggtgagt  
241 gctaatttaa acacctttt gtctatagat ggtaataaaa tatacacaac ttacgtacaa  
301 gagttgcaac gtaggttgta tatgggtatt tatcgcacta acacagtgga taatgattta  
361 gtctctgatt attataacta ttgcgtaag cattttagta tgatgatt

//

LOCUS MN312828 405 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat betacoronavirus isolate HK140594 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312828

VERSION MN312828

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 405)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 405)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..405

/organism="Bat betacoronavirus"

/mol\_type="genomic RNA"

/isolate="HK140594"

/host="Cynopterus sphinx"

/db\_xref="taxon:1805463"

/country="China"

gene <1..>405

/gene="RdRp"

CDS <1..>405

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88448"

/translation="DRAMPNLLRIFASLILARKHSTCCNASERFYRLANCAQVLSEM  
VLCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQELQ  
RRLYMGIIYRTNTVDNDLVLDYYNYLRKHFSMMI"

ORIGIN

1 gatagagcta tgccaactt gttgcgtata ttgcccagtc taattttggc gcgaaaacac  
61 tctacttgct gcaatgcctc tgaagattt tataggttag caaatgagtg tgccaagtg  
121 cttagtgaga tggttttatg tggaggtgga ttctatgtaa aaccaggagg tacaagtagt

181 ggcgattcca ccaactgata tgcaaatagt gtgtttaata tttgccaagc ggtgagtgt  
241 aatttaaca cctttttgtc tatagatggt aataaaatat acacaactta cgtacaagag  
301 ttgcaacgta ggtgttatat gggtatttat gcactaaca cagtggataa tgatttagtt  
361 ctggattatt ataactatt gcgtaagcat ttagtatga tgatt

//

LOCUS MN312829 423 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate HZ13479 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312829

VERSION MN312829

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 423)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 423)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..423

/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="HZ13479"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"  
/country="China"

gene <1..>423  
/gene="RdRp"

CDS <1..>423  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88449"  
/translation="DYPKCDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANCAQ  
VLSEVMVCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKY  
VRNLQHRLYECLYRNRDVEDHEFVDEFYAYLRKHFSMMI"

ORIGIN

1 gggattatcc caaatgtgac agagccatgc ctaacatgct taggataatg gcctctcttg  
61 ttcttctcg caaacatagc acttctgta acttatcaca cgtttctac aggttagcta  
121 atgagtgtgc acaagtgtta agtgagatgg tcatgtgtgg cggctcacta tatgttaaac  
181 caggtggaac atcatcaggt gatgctacaa ctgcttatgc taatagtgtc ttaacattt  
241 gtcaagctgt tacagccaat gtaaagcgc ttcttcaac tgatggtaat aaaatagctg  
301 acaagtacgt cgcgaattta caacacagge tttatgagtg tctctataga aatagggatg  
361 ttgatcatga atcgtggat gattttacg cttacctgcg taaacattc tccatgatga  
421 tc

//  
LOCUS MN312830 442 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate HZ13484 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312830

VERSION MN312830

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 442)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 442)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..442

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="HZ13484"

/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>442

/gene="RdRp"

CDS <1..>442

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88450"

/translation="LMGWDYPKCDRAMPGMLRIMASLVIAGKHSTCCNLSRRFYRLGN

ECAQVLSEMVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKI

ADKYVRNLQHRLYECLYRNRDVDHEFVDEFYAYLRKHFSMMILSD"

ORIGIN

1 cttatgggtt gggattatcc caaatgtgac agagccatgc ctggcatgct taggataatg  
61 gcctctcttg ttattgctgg caaacatagc acttgctgta acttatcacg cegtctctac  
121 aggttaggta atgagtgtgc acaagtgtta agtgagatgg tcattgtgtgg cggctcacta  
181 tatgttaaac caggtggaac atcatcaggt gatgctacaa ctgcttatgc taatagtgtc  
241 ttaacattt gtcaagctgt tacagccaat gtaaatgcac ttctttcaac tgatggtaat  
301 aaaatagctg acaagtagct cgcgaattta caacacaggc tttatgagtg tctctataga  
361 aatagggatg ttgatcatga attcgtggat gagttttacg cttacctgcg taaacatttc  
421 tccatgatga ttctttctga tg

//  
LOCUS MN312831 433 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate HZ13488 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312831

VERSION MN312831

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 433)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 433)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..433

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="HZ13488"

/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>433

/gene="RdRp"

CDS <1..>433

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88451"

/translation="LMGWDYPKCDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLAN

ECAQVLSEMVMCGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGDKI

ADKYVRNLQHRLYECLYRNRDVDHEFVDEFYAYLRKHFSMMI"

ORIGIN

1 cttatgggtt gggattatcc caaatgtgac agagccatgc ctaacatgct taggataatg  
61 gcctctcttg ttcttgctcg caaacatagc acttgctgta acttatcaca ccgtttctac  
121 aggttagcta atgagtgtgc acaagtgtta agtgagatgg tcattgtgtgg cggctcacta  
181 tatgttaaac caggtggaac atcatcaggt gatgctacaa ctgcttatgc taatagtgtc  
241 ttaacattt gtcaagctgt tacagccaat gtaaatgcac ttctttcaac tgatggtaat  
301 aaaatagctg acaagtacgt ccgcaattta caacacaggc tttatgagtg tctctataga  
361 aatagggatg ttgatcatga attcgtggat gagttttacg cttacctgcg taaacatttc  
421 tccatgatga ttc

//

LOCUS MN312832 359 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate LQ131405 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312832

VERSION MN312832

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 359)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 359)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..359

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="LQ131405"

/host="Rhinolophus ferrumequinum"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>359

/gene="RdRp"

CDS <1..>359

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88452"

/translation="RAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANCAQVLSEMV

MCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNLQH

RLYECLYRNRDVDHEFV"

ORIGIN

1 agagccatgc ctaacatgct tagaattatg gcttctcttg ttcttgctcg taaacatagc  
61 acttgctgta actgtcaca ccgtttctat agattagcta atgagtgtgc acaagtatta  
121 agtgagatgg tcattgtgagg aggctcacta tatgtaaac caggtggaac atcatcaggt  
181 gatgccacaa ctgcttatgc taatagtgtg ttaacattt gtcaagcggg gacagctaat  
241 gtaaagtcac ttcttcaac tgatggtaac aagattgctg acaagtacgt tcgcaacctc  
301 caacacaggc tatatgagtg tccttataga aatagagacg ttgatcatga atttggga

//

LOCUS MN312833 355 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate LQ131406 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312833

VERSION MN312833

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 355)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 355)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..355  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="LQ131406"  
/host="Rhinolophus ferrumequinum"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>355  
/gene="RdRp"  
CDS <1..>355  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88453"  
/translation="RAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANCAQVLSEMV  
MCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGDKIADKYVRNLQH  
RLYECLYRNRDVEDHEF"

ORIGIN

1 agagccatgc ctaacatgct tagaattatg gcttctcttg ttcttgctcg taacatagc  
61 acttgctgta actgtcaca ccgtttctat agattagcta atgagtgtgc acaagtatta  
121 agtgagatgg tcatgtgtgg aggtcacta tatgtaaac caggtggaac atcatcaggt  
181 gatccacaa ctgcttatgc taatagtgtg ttaacattt gtcaagcggg gacagctaat  
241 gtaaatgac tctttcaac tgatgtaac aagattgctg acaagtacgt tcgcaacctc  
301 caacacaggc tatatgagtg ttctataga aatagagacg ttgatcatga atttg

//

LOCUS MN312834 355 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate LQ131407 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312834

VERSION MN312834

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 355)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 355)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..355  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="LQ131407"  
/host="Rhinolophus ferrumequinum"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>355  
/gene="RdRp"  
CDS <1..>355  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88454"  
/translation="RAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSEMV  
MCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGDKIADKYVRNLQH  
RLYECLYRNRDVEDHEF"

ORIGIN

1 agagccatgc ctaacatgct tagaattatg gttctcttg ttcttgctcg taaacatagc  
61 acttgctgta actgtgcaca ccgtttctat agattagcta atgagtgtgc acaagtatta  
121 agtgagatgg tcattgtgtg aggctcacta tatgtaaac caggtggaac atcatcaggt  
181 gatgccacaa ctgcttatgc taatagtgtg ttaacattt gtcaagcggg gacagctaat  
241 gtaaattgac ttctttcaac tgatggtaac aagattgctg acaagtacgt tcgcaacctc  
301 caacacaggc tatatgagtg ttcttataga aatagagacg ttgatcatga atttg

//

LOCUS MN312835 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate LQ131412 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312835

VERSION MN312835

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402  
/organism="Bat SARS-like coronavirus"



/mol\_type="genomic RNA"  
/isolate="LQ131412"  
/host="Rhinolophus ferrumequinum"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>402  
/gene="RdRp"  
CDS <1..>402  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88455"  
/translation="RAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSEMV  
MCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNLQH  
RLYECLYRNRDVDHEFVDEFYAYLRKHFSMMI"

#### ORIGIN

1 agagccatgc ctaacatgct tagaattatg gcttctcttg ttcttgctcg taacatagc  
61 acttgctgta acttgctgca ccgtttctat agattagcta atgagtgtgc acaagtatta  
121 agtgagatgg tcatgtgtgg aggetcacta tatgtaaac caggtggaac atcatcaggt  
181 gatgccacaa ctgcttatgc taatagtgtg ttaacattt gtcaagcggg gacagctaat  
241 gtaaatgcac ttcttcaac tgatggaac aagattgctg acaagtacgt tcgcaacctc  
301 caacacaggc tatatgagtg ttctataga aatagagacg ttgatcatga atttgggat  
361 gaatttacg catatttgcg taagcatttc tctatgatga tt

//

LOCUS MN312836 343 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate ML140134 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312836

VERSION MN312836

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 343)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 343)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..343  
/organism="Bat betacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="ML140134"  
/host="Cynopterus sphinx"  
/db\_xref="taxon:1805463"  
/country="China"

gene <1..>343  
/gene="RdRp"  
CDS <1..>343  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88456"  
/translation="DRAMPNLLRIFASLILARKHSTCCNASERFYRLANECAQVLSEM  
VLCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQELQ  
RRLYMGIYRTNT"

ORIGIN

1 gatagagcta tgccaactt gttgcgtata ttgccagtc taattttggc gcgaaaacac  
61 tctacttgct gcaatgcctc tgaagattt tataggtag caaatgagtg tgccaagtg  
121 cttagtgaga tggttttatg tggaggtgga ttctatgtaa aaccaggagg tacaagtagt  
181 ggcgattcca ccaactgcata tgcaaatagt gtgttaata ttgccaagc ggtgagtgtc  
241 aatttaaaca cctttttgtc tatagatggt aataaaatat acacaactta cgtacaagag  
301 ttgcaacgta ggttgatat gggtattat cgcactaaca cag

//

LOCUS MN312837 347 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate ML140136 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312837

VERSION MN312837

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 347)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 347)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..347  
/organism="Bat betacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="ML140136"  
/host="Cynopterus sphinx"  
/db\_xref="taxon:1805463"  
/country="China"

gene <1..>347  
/gene="RdRp"

CDS <1..>347  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88457"  
/translation="DRAMPNLLRIFASLILARKHSTCCNASERFYRLANECAQVLSEM  
VLCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQELQ  
RRLYMGIIYRTNTV"

ORIGIN

1 tgatagagct atgccaact tgttgcgtat attgccagt ctaatttgg cgcgaaaaca  
61 ctctacttgc tgcaatgct ctgaaagatt ttataggta gcaatgagt gtgccaagt  
121 gcttagtgag atggtttat gtggaggtgg attctatgta aaaccaggag gtacaagtag  
181 tggcgattcc accactgcat atgcaaatag tgtgtttaat attgccaag cggtagtg  
241 taatttaaac accttttgt ctatagatgg taataaaata tacacaactt acgtacaaga  
301 gttgcaactg aggtgtata tgggtattta tgcactaac acagtgg

//

LOCUS MN312838 387 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate ML140137-1 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312838

VERSION MN312838

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 387)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 387)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..387

/organism="Bat betacoronavirus"

/mol\_type="genomic RNA"

/isolate="ML140137-1"

/host="Cynopterus sphinx"

/db\_xref="taxon:1805463"

/country="China"

gene <1..>387

/gene="RdRp"

CDS <1..>387

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88458"

/translation="MPNLLRIFASLILARKHSTCCNASERFYRLANECAQVLSEMVLC  
GGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQELQRRL  
YMGIIYRTNTVDNDLVLDYYNYLRKHF"

ORIGIN

1 tatgccaac ttgttgcgta tattgccag tctaatttg cgcgaaaac actctactg

61 ctgcaatgcc tctgaaagat tttatagggt agcaaatgag tgtgccaag tgcttagtga  
121 gatggtttta tgtggagggtg gattctatgt aaaaccagga ggtacaagta gtggcgattc  
181 caccactgca tatgcaaata gtgtgtttaa tatttgccaa gcggtgagtg ctaatttaa  
241 caccttttg tctatagatg gtaataaaat atacacaact tacgtacaag agttgcaacg  
301 taggtgtat atgggtattt atcgactaa cacagtggat aatgatttag ttctggatta  
361 ttataactat ttgcgtaagc attttag

//

LOCUS MN312839 387 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat betacoronavirus isolate ML140137-2 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312839

VERSION MN312839

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 387)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 387)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..387

/organism="Bat betacoronavirus"

/mol\_type="genomic RNA"

/isolate="ML140137-2"

/host="Cynopterus sphinx"

/db\_xref="taxon:1805463"

/country="China"

gene <1..>387

/gene="RdRp"

CDS <1..>387

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88459"

/translation="IPTLLRIFSTVILARKHSTCCNASERFYRLANESAQVLRMVLG

GGGFYVKPRGTSRGDSPPAHANSVFNICQAVSANLNTFLSIDGNKIYTTYVQELQRRL

YMGYRTNTVDNDLVLDYYNYLRKHF"

ORIGIN

1 tataaccacc ttgtgcgta tattttccac tgtaatttg ggcgcaaac actctacttg  
61 ctgcaatgcc tctgaaagat tttatagggt agcaaatgag agtgccaag tgcttagaga  
121 gatggtttta tgtggagggg gattttatgt aaaaccagga ggtacaagta gaggcgattc  
181 cccccctgca catgcaaata gtgtgtttaa tatttgccaa gcggtgagtg ctaatttaa  
241 caccttttg tctatagatg gtaataaaat atacacaact tacgtacaag agttgcaacg  
301 taggtgtat atgggtattt atcgactaa cacagtggat aatgatttag ttctggatta

361 ttataactat ttgcgtaage attttag

//

LOCUS MN312840 358 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate ML140139 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312840

VERSION MN312840

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 358)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 358)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..358

/organism="Bat betacoronavirus"

/mol\_type="genomic RNA"

/isolate="ML140139"

/host="Cynopterus sphinx"

/db\_xref="taxon:1805463"

/country="China"

gene <1..>358

/gene="RdRp"

CDS <1..>358

/gene="RdRp"

/codon\_start=3

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88460"

/translation="DRAMPNLLRIFASLILARKHSTCCNASERFYRLANECAQVLSEM  
VLCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQELQ  
RRLYMGIYRTNTVDND"

ORIGIN

1 gtgatagagc tatgcccaac ttgttcgta ttttgccag tctaatttg gcgcgaaaac  
61 actctacttg ctgcaatgcc tctgaaagat ttatagggt agcaaatgag tgtgcccaag  
121 tgcttagtga gatggtttta tgtggaggtg gattctatgt aaaaccagga ggtacaagta  
181 gtggcgattc caccactgca tatgcaata gtgtgtttaa ttttgccaa gcggtgagtg  
241 ctaatttaa cactttttg tetatagatg gtaataaaat atacacaact tacgtacaag  
301 agttgcaacg taggtgtat atgggtatt atcgactaa cacagtggat aatgattt

//

LOCUS MN312841 342 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat betacoronavirus isolate ML140140 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312841

VERSION MN312841

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 342)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 342)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..342

/organism="Bat betacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="ML140140"  
/host="Cynopterus sphinx"  
/db\_xref="taxon:1805463"  
/country="China"

gene <1..>342

/gene="RdRp"

CDS <1..>342

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88461"

/translation="DRAMPNLLRIFASLILARKHSTCCNASERFYRLANCAQVLSEM  
VLCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQELQ  
RRLYMGIIYRTNT"

ORIGIN

1 ttagatagct atgccaact tgttgcgtat attgccagt ctaatttgg cgcgaaaaca  
61 ctctacttgc tgcaatgct ctgaaagatt ttataggta gcaaatgagt gtgcccaagt  
121 gcttagtgag atggtttat gtggaggtgg attctatgta aaaccaggag gtacaagtag  
181 tggcgattcc accactgcat atgcaaagtag tgtgtttaat attgcccaag cggtagtgct  
241 taatttaaac accttttgt ctatagatgg taataaata tacacaactt acgtacaaga  
301 gttgcaactg aggtgtata tgggtattta tcgactaac ac

//

LOCUS MN312842 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat MERS-like coronavirus isolate NL13884-1 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312842

VERSION MN312842

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402  
/organism="Bat MERS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="NL13884-1"  
/host="Hypsugo pulveratus"  
/db\_xref="taxon:2664423"  
/country="China"  
gene <1..>402  
/gene="RdRp"  
CDS <1..>402  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88462"  
/translation="RAMPNMCRIFASLILARKHGTCTTRDRFYRLANCAQVLSEYV  
LCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNKIVDKAIRDMQF  
DLYVNVYRNTTPDPKFVVDKYYAFLNKHFSMMI"

ORIGIN

1 agagctatgc ctaacatgtg taggattttt gcactctctaa ttcttgcaag caagcatgga  
61 acttgctgca ctagtagaga tagattttac cgcttagcta atgagtgtgc tcagggtacta  
121 agcgaatatg ttctctgtgg cgggtggtat tatgtcaaac ctggcgggaac cagcagcggc  
181 gacgccacca cagcttatgc caacagtgtt ttaacattt tgcagggcag aactgcaaat  
241 gttagtgcac ttatgggcgc taatggcaac aaaattgttg ataaggagat tagggacatg  
301 caattcgatt tgtatgcaa tgtttacagg aataccactc ctgaccctaa attttagat  
361 aaatattatg cttttctcaa taagcacttc tctatgatga tt

//

LOCUS MN312843 399 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate NL140346 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312843

VERSION MN312843

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 399)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..399  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="NL140346"  
/host="Rhinolophus pusillus"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>399  
/gene="RdRp"  
CDS <1..>399  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88463"  
/translation="AMPNMLRIMASLVLARKHSTCCNLSHRFYRLANCAQVLSEMVM  
CGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNLQHR  
LYECLYRNRDVDHEFVDEFYAYLRKHFSMM"

ORIGIN

1 gagccatgcc taacatgctt aggataatgg cctctcttgt tcttgcgcgc aacatagca  
61 cttgctgcaa cttatcacac cgtttctata ggtagctaa cgagtgtgcg caagtattaa  
121 gtgagatggt catgtgtggc ggctcactat atgttaaacc aggtgaaca tcacaggtg  
181 atgtacaac tgcttatgct aatagtgtt ttaattttg tcaagctgtt acagctaatg  
241 taaatgcact tctctcaact gatggtaata agatagctga caagtatgct cgcaatctac  
301 aacacagact ttacgagtgt ctctacagaa atagggatgt agatcatgaa ttcgtggatg  
361 aattttacgc atattgccc aaacatttt ctatgatga

//

LOCUS MN312844 407 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate NL140352 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312844

VERSION MN312844

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 407)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 407)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and



biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
source            1..407  
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                  /isolate="NL140352"  
                  /host="Rhinolophus pusillus"  
                  /db\_xref="taxon:1508227"  
                  /country="China"  
gene              <1..>407  
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CDS                <1..>407  
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                  /codon\_start=3  
                  /product="RNA-dependent RNA polymerase"  
                  /protein\_id="QGA88464"  
                  /translation="RAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSEMV  
MCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNLQH  
RLYECLYRNRDVDHEFVDEFYAYLRKHFSMMIH"

#### ORIGIN

1 acagagccat gcctaacatg cttaggataa tggcctctct tgttcttgcg cgcaaacata  
61 gcacttgctg caacttatca caccgtttct ataggttage taacgagtgt gcgcaagtat  
121 taagtgagat ggctatgtgt ggcggctcac tatatgtaa accaggtgga acatcatcag  
181 gtgatgctac aactgcttat gctaatagtg ttttaatat ttgtcaagct gttacagcta  
241 atgtaaagtc acttctctca actgatggtg ataagatagc tgacaagtat gtccgcaatc  
301 tacaacacag actttacgag tgtctctaca gaaataggga tgtagatcat gaattcgtgg  
361 atgaatttta cgcatatttg cgcaaacatt tttctatgat gattcat

//

LOCUS    MN312845            404 bp    RNA    linear    VRL 07-NOV-2019  
DEFINITION    Bat SARS-like coronavirus isolate NL140391 RNA-dependent RNA  
                  polymerase (RdRp) gene, partial cds.

ACCESSION    MN312845

VERSION      MN312845

KEYWORDS     .

SOURCE       Bat SARS-like coronavirus

ORGANISM     Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE    1 (bases 1 to 404)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Origin and cross-species transmission of bat coronaviruses in China

JOURNAL       Unpublished

REFERENCE    2 (bases 1 to 404)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Direct Submission

JOURNAL       Submitted (13-AUG-2019) Key laboratory of special pathogens and  
                  biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
                  Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

source            1..404  
                  /organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"  
/isolate="NL140391"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>404  
/gene="RdRp"  
CDS <1..>404  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88465"  
/translation="RAMPNMLRIMASLVLARKHSTCCNLAHRFYRLANECAQVLSEMV  
MCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNLQH  
RLYECLYRNRDVDHEFVGEFYAYLRKHFSMMI"

#### ORIGIN

1 acagagccat gcctaacatg cttaggataa tggcctctct tgttcttgct cgcaaacaca  
61 gcacttgctg taacttagca caccgtttct acaggtagc taatgagtgt gcacaagtgt  
121 taagtgagat ggtcatgtgt ggcggetcac tatatgtaa accagggtgga acatcatcag  
181 gtgatgctac aactgcttat gctaatagtg tctttaacat ttgccaagct gttacagcca  
241 atgtaaatgc acttcttca actgatggta ataaaatagc tgacaagtat gtccgcaatt  
301 tacaacacag gctttatgag tgtctctata gaaataggga tgttgatcat gaattcgtgg  
361 gtgagtttta cgcttacctg cgtaaacatt tctctatgat gatt

//

LOCUS MN312846 407 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate NL140400 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312846

VERSION MN312846

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 407)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 407)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..407  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="NL140400"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"  
/country="China"

gene <1..>407  
/gene="RdRp"  
CDS <1..>407  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88466"  
/translation="CDRAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANCAQVLSE  
MVMCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNL  
QHRLYECLYRNRDVDHEFVDEFYAYLRKHFSMM"

ORIGIN

1 tgtgacagag ccatgcctaa tatgcttagg atcatggcct ctctgttct tgctgcaaa  
61 catagcacgt gctgtaactt gtcgaccgt ttctacagat tagctaata gtgtgcacaa  
121 gtattaagt agatggcat gtgtggcggc tcactatag tgaaccagg tggcacatcg  
181 tctggatg ctacaactgc ttatgcta atgtgtgta acatctgtca agctgtaaca  
241 gctaacgta acgcactct tcaactgat ggtaacaaga ttgccgacaa gtacgtacgt  
301 aatctcaac acagacttta tgagtgtct tatagaaata gggatgtaga tcatgaatt  
361 gtggatgagt ttacgcata cttgcgcaaa cacttctta tgatgat

//

LOCUS MN312847 397 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat MERS-like coronavirus isolate NL140450 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312847

VERSION MN312847

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 397)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 397)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..397  
/organism="Bat MERS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="NL140450"  
/host="Ia io"  
/db\_xref="taxon:2664423"  
/country="China"

gene <1..>397  
/gene="RdRp"

CDS <1..>397  
/gene="RdRp"  
/codon\_start=2

/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88467"  
/translation="AMPNMCRIFASLILARKHGTCCSTSDRFYRLANECAQVLSEYVL  
CGGGYYVKPGGTSSGDATTAYANSVFNILQATTANVSALMGTNGNKIVDKVDRDMQFD  
LYVNVYRRTSPDPKFVVDKYYAFLNKHFSMM"

ORIGIN

1 agctatgct aacatgtgta ggattttgc atcactgata ttagctgca agcatggtac  
61 ttgctgctct accagtgate gttttaccg cttagctaat gagggtgctc aggtgtaag  
121 tgaatatgtg ttgtgtggtg gtggctacta tgtaagcct ggtggcacia gcagtgtga  
181 tgccactacc gcatatgcca atagtgctt taacattctg caagcgacta ctgccaatgt  
241 gaggtcactt atgggaacta atggcaacia gattgtgat aaagaagta gagacatgca  
301 gtttgattg tatgtcaatg ttacaggcg tacatcacct gatcctaagt ttgtgataa  
361 atattatgct tttcttaata agcacttttc tatgatg

//

LOCUS MN312848 412 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate NL140452 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312848

VERSION MN312848

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 412)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 412)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..412

/organism="Bat betacoronavirus"

/mol\_type="genomic RNA"

/isolate="NL140452"

/host="Hypsugo pulveratus"

/db\_xref="taxon:1805463"

/country="China"

gene <1..>412

/gene="RdRp"

CDS <1..>412

/gene="RdRp"

/codon\_start=2

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88468"

/translation="KCDRAMPNMCRIFASLILARKHGTCCCTTRDRFYRLANECAQVLS

EYVLCGGGYYVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNKIVDKVDRDMQFD

LYVNVYRRTTPDPKFVVDKYYAFLNKHFSMMI"

## ORIGIN

1 taaatgtgat cgtgctatgc ctaacatgtg taggatttt gcactctctaa ttcttgacag  
61 caagcatgga actgtctgca ctactagaga tagattttac cgcttagcta atgagtgtgc  
121 tcaggtacta agcgaatag ttctctgtgg cgggtggtat tatgtcaaac ctggcgggaa  
181 cagcagcggc gacgccacca cagcttatgc caacagtgtt ttaacatt tgcaggcgac  
241 aactgcaaat gttagtgcac ttatgggcgc taatggcaac aaaattgttg ataaggagat  
301 tagggacatg caattcgatt tgtatgtcaa tgtttacagg aataccactc ctgaccctaa  
361 attgtagat aatattatg cttttctcaa taagcacttc tctatgatga tt

//

LOCUS MN312849 408 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat MERS-like coronavirus isolate NL140454 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312849

VERSION MN312849

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 408)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..408

/organism="Bat MERS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="NL140454"  
/host="Hypsugo pulveratus"  
/db\_xref="taxon:2664423"  
/country="China"

gene <1..>408

/gene="RdRp"

CDS <1..>408

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88469"

/translation="CDRAMPNMCRIFASLILARKHGTCCTTRDRFYRLANCAQVLSE

YVLCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNKIVDKIIRDM

QFDLYVNVYRNTTPDPKFVVKYAFNLKHFSSMMI"

## ORIGIN

1 tgtgatagag ctatgcctaa catgtgtagg attttgcac ctctaattct tgcacgcaag  
61 catggaactt gctgcactac tagagataga tttaccgct tagctaatga gtgtgctcag  
121 gtactaagcg aatatttct ctgtggcggg ggttattatg tcaaacctgg cggaaccagc  
181 agcggcgacg ccaccacagc ttatgccaac agtgtttta acattttgca ggcgacaact

241 gcaaatgta gtgcacttat gggcgctaataa ggcaacaaaa ttgttgataa ggagattagg  
301 gacatgcaat tcgatttgta tgcaatggt tacaggaata ccaactctga cccaaattt  
361 gtagataaat attatgcgtt tctcaataag cacttcteta tgatgatt

//

LOCUS MN312850 418 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat MERS-like coronavirus isolate NL140455 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312850

VERSION MN312850

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 418)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 418)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..418

/organism="Bat MERS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="NL140455"

/host="Hypsugo sp."

/db\_xref="taxon:2664423"

/country="China"

gene <1..>418

/gene="RdRp"

CDS <1..>418

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88470"

/translation="CDRAMPNMCRIFASLILARKHGTCCTTRDRFYRLANCAQVLSE

YVLCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNKIVDKIIRDM

QFDLYVNVYRNTTPDPKFVVDKYYAFLNKHFSMMIQLM"

ORIGIN

1 tgtgatagag ctatgcctaa catgtgtagg attttgcat ctctaattct tgcacgcaag  
61 catggaactt gtgcactac tagagataga tttaccgct tagctaatga gtgcgctcag  
121 gtaactaacg aatattgctt ctgtggtggt ggttattacg tcaaacctgg cggaaccagg  
181 agtggcgatg ccaccacagc ttatgccaac agtgtcttta acatttgcg ggcgacaact  
241 gcaaatgta gtgcacttat gggcgctaataa ggcaacaaaa ttgttgataa agagattagg  
301 gacatgcaat tcgatttgta tgcaatggt tacaggaata ctactctga cccaaattt  
361 gtagataaat attatgcgtt tctcaacaag cactttteta tgatgattca actgatga

//

LOCUS MN312851 440 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat betacoronavirus isolate NL140458 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312851

VERSION MN312851

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae; Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 440)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J., Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 440)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J., Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..440

/organism="Bat betacoronavirus"

/mol\_type="genomic RNA"

/isolate="NL140458"

/host="Hypsugo sp."

/db\_xref="taxon:1805463"

/country="China"

gene <1..>440

/gene="RdRp"

CDS <1..>440

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88471"

/translation="GWDYPKCDRAMPNMCRIFASLILARKHGTCCCTRDRFYRLANEC

AQVLSEYVLCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNKIVD

KEIRDMQFDLYVNVYRNTTPDPKFVDKYYAFLNKHFSMMIHLMM"

ORIGIN

1 ggttgggatt atccaaatg tgatcgtgct atgcctaaca tgttaggat tttgcatct  
61 ctaattctg cacgcaagca tgaacttgc tgcactacta gagatagatt ttaccgctta  
121 gctaatgagt gtgctcaggt actaagcgaat tatgttctct gtggcgggtg ttattatgct  
181 aaacctggcg gaaccagcag cggcgacgcc accacagctt atgccaacag tgttttaac  
241 atttgcagg cgacaactgc aatgttagt gcacttatgg gcgctaattg caacaaaatt  
301 gttgataagg agattagga catgcaatc gattgtatg tcaatgtta caggaatacc  
361 actcctgacc ctaatttgt agataaatat tatgctttc tcaataagca cttctctatg  
421 atgattcatc tgatgatgga

//

LOCUS MN312852 403 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat MERS-like coronavirus isolate NL140460 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312852

VERSION MN312852

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 403)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 403)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..403

/organism="Bat MERS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="NL140460"  
/host="Hypsugo pulveratus"  
/db\_xref="taxon:2664423"  
/country="China"

gene <1..>403

/gene="RdRp"

CDS <1..>403

/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
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/translation="RAMPNMCRIFASLILARKHGTCCTTRDRFYRLANCAQVLSEYV  
LCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNKIVDKEIRDMQF  
DLYVNVYRNTTPDPKFVDKYYAFLNKHFSMMI"

ORIGIN

1 tagagctatg cctaactgtg gtaggattt tgcattctca attcttgca gcaagcatgg  
61 aacttgctgc actactagag atagattta ccgcttagct aatgagtgtg ctcaggctact  
121 aagcgaatat gttctctgtg gcggtggta ttatgcaaa cctggcggaa ccagcagcgg  
181 cgacgccacc acagcttatg ccaacagtgt ttttaacatt ttgcaggcga caactgcaaa  
241 tgttagtgca cttatgggcg ctaatggcaa caaattgtt gataaggaga ttagggacat  
301 gcaattgat ttgatgtca atgtttacag gaataccact cctgacccta aattgtaga  
361 taaatattat gcttttctca ataagcactt ctctatgatg att

//

LOCUS MN312853 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat MERS-like coronavirus isolate NL140462 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312853

VERSION MN312853

KEYWORDS .

SOURCE Bat MERS-like coronavirus

ORGANISM Bat MERS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.



REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402  
/organism="Bat MERS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="NL140462"  
/host="Hypsugo pulveratus"  
/db\_xref="taxon:2664423"  
/country="China"  
gene <1..>402  
/gene="RdRp"  
CDS <1..>402  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88473"  
/translation="RAMPNMCRIFASLILARKHGTCTTRDRFYRLANCAQVLSEYV  
LCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNKIVDKAIRDMQF  
DLYVNVYRNTTPDPKFVVDKYYAFLNKHFSMMI"

ORIGIN

1 agagctatgc ctaacatgtg taggattttt gcctctctaa ttcttgcaag caagcatgga  
61 acttgctgca ctaactagaga tagattttac cgcttagcta atgagtgtgc tcaggacta  
121 agcgaatatg ttctctgtgg cgggtggtat tatgtcaaac ctggcggaac cagcagcggc  
181 gacgccacca cagcttatgc caacagtgtt ttaacattt tgcagggcag aactgcaaat  
241 gttagtgcac ttatgggcgc taatggcaac aaaattgttg ataaggagat tagggacatg  
301 caattcgatt tgtatgcaa tgtttacagg aataccactc ctgaccctaa attttagat  
361 aaatattatg cttttctcaa taagcacttc tctatgatga tt

//

LOCUS MN312854 409 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate NL140465 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312854

VERSION MN312854

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus  
Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished

REFERENCE 2 (bases 1 to 409)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..409  
/organism="Bat betacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="NL140465"  
/host="Hypsugo pulveratus"  
/db\_xref="taxon:1805463"  
/country="China"  
gene <1..>409  
/gene="RdRp"  
CDS <1..>409  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88474"  
/translation="CDRAMPNMCRIFASLILARKHGTCCTTRDRFYRLANCAQVLSE  
YVLCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMGANGNKIVDKIIRDM  
QFDLYVNVYRNTTPDPKFVDKYYAFLNKHFSMMI"

ORIGIN

1 tgtgatagag ctatgcctaa catgtgtagg attttgcac ctctaattct tgcacgcaag  
61 catggaactt gctgcactac tagagataga tttaccgct tagctaata ga gtgtgctcag  
121 gtactaagcg aatatgttct ctgtggcggg ggttattatg tcaaacctgg cggaccagc  
181 agcggcgacg ccaccacagc ttatgccaac agtgttttta acattttgca ggcgacaact  
241 gcaaatgtta gtgcacttat gggcgctaat ggcaacaaaa ttgttgataa ggagattagg  
301 gacatgcaat tcgatttga tgcaatgtt tacaggaata ccactcctga ccctaaattt  
361 gtagataaat attatgctt tetcaataag cacttctcta tgatgattc

//

LOCUS MN312855 403 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate NL140478 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312855

VERSION MN312855

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 403)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 403)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers  
source            1..403  
                  /organism="Bat SARS-like coronavirus"  
                  /mol\_type="genomic RNA"  
                  /isolate="NL140478"  
                  /host="Hipposideros pratti"  
                  /db\_xref="taxon:1508227"  
                  /country="China"  
gene              <1..>403  
                  /gene="RdRp"  
CDS                <1..>403  
                  /gene="RdRp"  
                  /codon\_start=2  
                  /product="RNA-dependent RNA polymerase"  
                  /protein\_id="QGA88475"  
                  /translation="RAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSEMV  
TCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGDKIADKYVRNLQH  
RLYECLYRNRDVEDHEFVDEFYAYLRKHFSSMMI"

#### ORIGIN

1 tagagccatg cctaaccatgc ttaggataat ggcctctctt gttcttgctc gcaaaccatag  
61 cacttgctgc aacttatac accgtttcta taggtagct aacgagtgtg cgcaagtatt  
121 aagtgagatg gtcacgtgtg gcggtcact atatgttaa ccaggtggaa catcatcagg  
181 tgatgctaca actgctatg ctaatagtgt ttttaattt tgcaagctg ttacagctaa  
241 tgtaaatgca cttctctcaa ctgatggtaa taagatagct gacaagtatg tccgcaatc  
301 acaacacaga cttacagagt gtctctacag aaatagggat gtatgatcatg aattcgtgga  
361 tgaattttac gcatatttgc gcaaaccattt ttctatgatg att

//

LOCUS    MN312856            402 bp    RNA    linear    VRL 07-NOV-2019  
DEFINITION    Bat SARS-like coronavirus isolate NL140494 RNA-dependent RNA  
                  polymerase (RdRp) gene, partial cds.

ACCESSION    MN312856

VERSION      MN312856

KEYWORDS     .

SOURCE       Bat SARS-like coronavirus

ORGANISM     Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE    1 (bases 1 to 402)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Origin and cross-species transmission of bat coronaviruses in China

JOURNAL       Unpublished

REFERENCE    2 (bases 1 to 402)

AUTHORS      Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
                  Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE         Direct Submission

JOURNAL       Submitted (13-AUG-2019) Key laboratory of special pathogens and  
                  biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
                  Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES            Location/Qualifiers

source            1..402  
                  /organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"  
/isolate="NL140494"  
/host="Hipposideros armiger"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>402  
/gene="RdRp"  
CDS <1..>402  
/gene="RdRp"  
/codon\_start=2  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88476"  
/translation="RAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSEMV  
MCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSADGNKIADKYVRNLQH  
RLYECLYRNRDVDHEFVDEFYAYLRKHFSMM"

#### ORIGIN

1 cagagccatg ctaacatgc ttaggataat ggcctctctt gttcttgctc gcaaacatag  
61 cacttgctgc aacttatcac accgtttcta taggtagct aacgagtgtg cgcaagtatt  
121 aagtgagatg gtcattgtg ggcgctcact atatgttaa ccaggtggaa catcatcagg  
181 tgatgctaca actgcttatg ctaatagtgt ttttaattt tgtaagctg ttacagctaa  
241 tgtaaacgca ctctctcag ctgatggtaa taagatagct gacaagtatg tccgcaatct  
301 acaacacaga cttacagagt gtctctacag aatagggat gtagatcatg aattcgtgga  
361 tgaatttac gcatattgc gcaaacttt ttctatgatg at

//

LOCUS MN312857 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate QS131514 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312857

VERSION MN312857

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="QS131514"  
/host="Rhinolophus ferrumequinum"  
/db\_xref="taxon:1508227"  
/country="China"

gene <1..>402  
/gene="RdRp"  
CDS <1..>402  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88477"  
/translation="RAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSEMV  
MCGGSLYVVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGDKIADKYVRNLQH  
RLYECLYRNRDVDHKFVDEFYAYLRKHFSMMI"

ORIGIN

1 agagccatgc ctaacatgct tagaattatg gcttctcttg ttcttgctcg caaacatagc  
61 acttgctgta acttgtcaca ccgtttctat agattagcta atgagtgtgc acaagtatta  
121 agtgagatgg tcattgtgagg aggctcacta tatgtaaac caggtggaac atcatcaggt  
181 gatgccacaa ctgcttatgc taatagtgtg ttaacattt gtcaagcggg gacagctaat  
241 gtaaagtcac ttcttcaac tgatggtaac aagattgctg acaagtacgt tcgcaacctc  
301 caacacaggc tatatgagtg ttctataga aatagagacg ttgatcataa atttgggat  
361 gaattttacg catatttgcg taagcatttc tctatgatga tt

//

LOCUS MN312858 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate SZ140288 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312858

VERSION MN312858

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="SZ140288"  
/host="Rhinolophus sinicus"  
/db\_xref="taxon:1508227"  
/country="China"

gene <1..>402  
/gene="RdRp"

CDS <1..>402  
/gene="RdRp"  
/codon\_start=1

/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88478"  
/translation="RAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSEMV  
MCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNLQH  
RLYECLYRNRDVDHEFVDEFYAYLRKHFSSMMI"

ORIGIN

1 agagccatgc ctaatatgct tagaatcatg gcttccttg ttcttgctcg caaacatage  
61 acttggtgta actgtcaca ccgtttctat agattagcta atgagtgtgc acaagtatta  
121 agtgagatgg tcattgtggt cggctcatta tacgtgaaac caggtggaac atcatccggt  
181 gatgccacaa ctgcttatgc taatagtgtg ttaacatct gtcaagcagt aacagctaat  
241 gtaaatgcac ttctctcaac tgatggtaat aagattgctg ataatgacgt cgcacacctt  
301 caacatagac tttatgagtg ttctctataga aatagagatg tagatcatga gttcgtggat  
361 gaattttatg catatttgcg taagcacttc tctatgatga tt

//

LOCUS MN312859 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate SZ140289 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312859

VERSION MN312859

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat SARS-like coronavirus"

/mol\_type="genomic RNA"

/isolate="SZ140289"

/host="Rhinolophus sinicus"

/db\_xref="taxon:1508227"

/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88479"

/translation="RAMPNMLRIMASLVLARKHSTCCNLSHRFYRLANECAQVLSEMV

MCGGSLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNLQH

RLYECLYRNRDVDHEFVDEFYAYLRKHFSSMMI"

ORIGIN

1 agagccatgc ctaatatgct tagaatcatg gcttccttg ttcttgctcg caaacatagc  
61 acttggtgta actgtcaca cggtttctat agattagcta atgagtgtgc acaagtatta  
121 agtgagatgg tcatgtgtgg cggctcatta tacgtgaaac caggtggaac atcatccggt  
181 gatgccacaa ctgcttatgc taatagtgtg ttaacatct gtcaagcagt aacagctaat  
241 gtaaatgcac ttctctcaac tgatggtaat aagattgcag ataagtacgt cgcgaacctt  
301 caacatagac tttatgagtg tctctataga aatagagatg tagatcatga gttcgtggat  
361 gaattttatg catatttgcg taagcacttc tctatgatga tt

//

LOCUS MN312860 357 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat betacoronavirus isolate SZ140311 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312860

VERSION MN312860

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 357)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 357)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..357

/organism="Bat betacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="SZ140311"  
/host="Hipposideros terasensis"  
/db\_xref="taxon:1805463"  
/country="China"

gene <1..>357

/gene="RdRp"

CDS <1..>357

/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88480"  
/translation="RAMPNLLRIFASLILARKHSTCCNASERFYRLANECAQVLSEMV  
LCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQELQR  
RLYMGYIRTNTVDNDLV"

ORIGIN

1 agagctatgc ccaactggtt gcgtatatt gccagtctaa ttttggcgcg aaaacactct  
61 acttgcctga atgcctctga aagattttat aggttagcaa atgagtgtgc ccaagtgett  
121 agtgagatgg tttatgtgg aggtggattc tatgtaaac caggagggtac aagtagtggc  
181 gattccacca ctgcatatgc aatagtgtg ttaatatatt gccagcgggtagtgctaat

241 taaacacct tttgtctat agatggtaat aaaatataca caacttacgt acaagagttg  
301 caacgtaggt tgtatatggg tatttatcgc actaacacag tggataatga ttagtt

//

LOCUS MN312861 357 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate SZ140312 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312861

VERSION MN312861

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 357)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 357)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..357

/organism="Bat betacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="SZ140312"  
/host="Hipposideros armiger"  
/db\_xref="taxon:1805463"  
/country="China"

gene <1..>357  
/gene="RdRp"

CDS <1..>357  
/gene="RdRp"

/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88481"  
/translation="RAMPNLLRIFASLILARKHSTCCNASERFYRLANCAQVLSEMV  
LCGGGFYVKPGGTSSGDSTTAYANSVFNICQAVSANLNTFLSIDGNKIYTTYVQELQR  
RLYMGIYRTNTVDNDLV"

ORIGIN

1 agagctatgc ccaacttggt gcgtatatt gccagtctaa tttggcgcg aaaacactct  
61 acttgcctga atgcctctga aagatttat aggttagcaa atgagtgtgc ccaagtgcct  
121 agtgagatgg tttatgtgg aggtggatc tatgtaaac caggaggtac aagtagtggc  
181 gattcacca ctgcatatgc aaatagtgtg ttaatatatt gccaagcggg gtagtgctaat  
241 taaacacct tttgtctat agatggtaat aaaatataca caacttacgt acaagagttg  
301 caacgtaggt tgtatatggg tatttatcgc actaacacag tggataatga ttagtt

//

LOCUS MN312862 348 bp RNA linear VRL 07-NOV-2019  
DEFINITION Tylonycteris bat coronavirus HKU4 isolate SZ140324 RNA-dependent  
RNA polymerase (RdRp) gene, partial cds.



ACCESSION MN312862

VERSION MN312862

KEYWORDS .

SOURCE Tylonycteris bat coronavirus HKU4

ORGANISM Tylonycteris bat coronavirus HKU4

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 348)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 348)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and

biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of

Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..348

/organism="Tylonycteris bat coronavirus HKU4"

/mol\_type="genomic RNA"

/isolate="SZ140324"

/host="Tylonycteris pachypus"

/db\_xref="taxon:694007"

/country="China"

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/gene="RdRp"

CDS <1..>348

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88482"

/translation="RAMPNMCRILASLILARKHSTCCTNSDRFYRLANCAQVLSEYV

LCGGGYVVKPGGTSSGDATTAYANSVFNILQATTANVSALMSANGNTIVDREIKDMQF

DLYTNAVYRKVVDPDP"

ORIGIN

1 agagctatgc ctaatatgtg tcgcatttta gcgctattga tttggcacg taagcatagt

61 acttgttgta ctaattctga taggttctac cgcttagcca atgagtgtgc tcaagtgcta

121 agtgagtatg tcctatgcgg tgggtgctat tatgttaaac caggaggtac gagtagtggt

181 gatgcaacta ctgcttatgc caacagtgtt ttaacatat tacaagccac tacagctaat

241 gttagtgcac ttatgagtgc taatggtaac acgattgtag atcgtgaaat aaaggatatg

301 caatttgatt tgtataccaa tgtgtataga aaagtagtgc ctgacatc

//

LOCUS MN312863 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat betacoronavirus isolate TL13269 RNA-dependent RNA polymerase

(RdRp) gene, partial cds.

ACCESSION MN312863

VERSION MN312863

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronidovirineae; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402

/organism="Bat betacoronavirus"

/mol\_type="genomic RNA"

/isolate="TL13269"

/host="Hipposideros pratti"

/db\_xref="taxon:1805463"

/country="China"

gene <1..>402

/gene="RdRp"

CDS <1..>402

/gene="RdRp"

/codon\_start=1

/product="RNA-dependent RNA polymerase"

/protein\_id="QGA88483"

/translation="RAMPNMLRIFASLILARKHNTCCNVSEYYRLANECAQVLSEMV

LCGGALYVKPGGTSSGDATTAYANSVFNICQAVTANISALLAANGNKIVDVYIRDLQR

KLYANVYRSVHVDYKVFVDEYYAFLRKHFSSMMI"

ORIGIN

1 agagctatgc ctaatatgtt gcgtatttc gcttcattga ttttagccag aaagcacaac

61 acgtgttgta atgtaagtga aagatactac agactggcta atgagtgcgc tcaagtattg

121 agtgagatgg ttctatgtgg tgggtctttg tatgtgaaac caggtggtac ttctccggg

181 gacgcaacca ctgcatatgc aaattctgtt ttcaatatct gtcaagcagt aacggccaac

241 attagtgcct tgctagcagc taatggaaac aagatagtcg atgtttacat tcgagactta

301 cagcgtaaac tgtatgcgaa tgtttatcgt agtgccatg ttgattataa gttcgtgat

361 gagtactacg catttttgcg taaacacttt tctatgatga tt

//

LOCUS MN312864 402 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat betacoronavirus isolate TL13272 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312864

VERSION MN312864

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 402)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..402  
/organism="Bat betacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="TL13272"  
/host="Hipposideros pratti"  
/db\_xref="taxon:1805463"  
/country="China"  
gene <1..>402  
/gene="RdRp"  
CDS <1..>402  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88484"  
/translation="RAMPNMLRIFASLILARKHTTCCTVSEYYRLANECAQVLSEMV  
LCGGALYVKPGGTSSGDATTAYANSVFNICQAVTANISALLAANGNKIVDVYIRDLQR  
KLYANVYRSVHVDYKVFVDEYYAFLRKHFSSMMI"

ORIGIN

1 agagctatgc ctaatgtt gcgtatttc gcatcattga ttttagccag aaagcacacc  
61 acgtgttgta ctgtaagtga aagatactac agactggcta atgagtgcgc tcaagtattg  
121 agtgagatgg ttctatgtgg tgggtccttg tatgtgaaac caggtgttac ttctccggt  
181 gagcaacca ctgcatatgc aaattctgtt tcaacatct gtcaagcagt aacggccaac  
241 attagtgcct tgctagcagc taatggaaac aagatagtcg atgtttacat tcgagactta  
301 cagcgtaaac tgtatgcgaa ttttatcgt agtgtccatg ttgattataa gttcgtagat  
361 gagtactacg ccttttgcg taacacttt tctatgatga tt

//

LOCUS MN312865 402 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat betacoronavirus isolate TL13277 RNA-dependent RNA polymerase  
(RdRp) gene, partial cds.

ACCESSION MN312865

VERSION MN312865

KEYWORDS .

SOURCE Bat betacoronavirus

ORGANISM Bat betacoronavirus

Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; unclassified Betacoronavirus.

REFERENCE 1 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 402)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..402  
/organism="Bat betacoronavirus"  
/mol\_type="genomic RNA"  
/isolate="TL13277"  
/host="Hipposideros pratti"  
/db\_xref="taxon:1805463"  
/country="China"  
gene <1..>402  
/gene="RdRp"  
CDS <1..>402  
/gene="RdRp"  
/codon\_start=1  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88485"  
/translation="RAMPNMLRIFASLILARKHNTCCNVSEYYRLANCAQVLSEMV  
LCGGALYVKPGGTSSGDATTAYANSVFNICQAVTANISALLAANGNKIVDVYIRDLQR  
KLYANVYRSVHVDYKVFVDEYYAFLRKHFSSMMI"

ORIGIN

1 agagctatgc ctaatattg gcgtatttc gcttcattga ttttagccag aaagcacaac  
61 acgtgttgta atgtaagtga aagatactac agactggcta atgagtgcgc tcaagtattg  
121 agtgagatgg ttctatgtgg tgggtccttg tatgtgaaac caggtggtac ttctccggt  
181 gagcgaacca ctgcatatgc aaattctgtt tcaatatct gtcaagcagt aacggccaac  
241 attagtgcct tgctagcagc taatggaaac aagatagtcg atgtttacat tcgagactta  
301 cagcgtaaac tgtatgcgaa tgtttatcgt agtgtccatg ttgattataa gttcgtgat  
361 gagtactac cattttgcg taacacttt tctatgatga tt

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LOCUS MN312866 912 bp RNA linear VRL 07-NOV-2019

DEFINITION Pipistrellus bat coronavirus HKU5 isolate XW140589 RNA-dependent RNA polymerase (RdRp) gene, partial cds.

ACCESSION MN312866

VERSION MN312866

KEYWORDS .

SOURCE Pipistrellus bat coronavirus HKU5

ORGANISM Pipistrellus bat coronavirus HKU5

Viruses; Riboviria; Nidovirales; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Merbecovirus.

REFERENCE 1 (bases 1 to 912)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 912)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..912

/organism="Pipistrellus bat coronavirus HKU5"  
/mol\_type="genomic RNA"  
/isolate="XW140589"  
/host="Pipistrellys abramus"  
/db\_xref="taxon:694008"  
/country="China"  
gene <1..>912  
/gene="RdRp"  
CDS <1..>912  
/gene="RdRp"  
/codon\_start=3  
/product="RNA-dependent RNA polymerase"  
/protein\_id="QGA88486"  
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YANSVFNILQATTANVSALMGANGNTIVDKVKDMQFELYVNVYRKSQDPDKFVDRYY  
AFLNKHFSMMILSDDGVVCYNSDYATKGYIASIQNFKETLYYQNNVFMSEAKCWVESD  
LKKGPHEFCSQHTLFIKDGDDGYFLPYDPSPRILSAGCFVDDIVKTDGTLMVERFVSL  
AIDAYPLTKHDDPEYQNVFWVYLQYIEKLYKDLTGHMLDSYSVMLCGDNSAKFWEEESF  
YRDLYTAPTTLQAVGSCVVCHSQTSLR"

#### ORIGIN

1 cttgctgtac taactactgat agattttacc gcttagcaaa tgagtgcgct caagtgccta  
61 gtgagtatgt ccttttggt ggtggtact acgtcaaacc tgggggacc agtagcggcg  
121 atgcaaccac tgcttacgct aatagtgttt ttaacattct gcaggcgact accgcaaatg  
181 ttagtgcact tatgggcgct aatggcaaca ctattgttga caaagaagtt aaggacatgc  
241 agtttgagct gtatgttaat gtttacagaa agagccaacc tgaccctaag tttgtggata  
301 ggtattatgc ctttctgaat aagcacttct ccatgatgat actgtcggat gacggtgtcg  
361 tatgctataa tagtgattat gccacaaaag ggtatatcgc atctattcaa aattttaagg  
421 agactctgta ttacagaat aatgtcttca tgcagaggc taaatgctgg gtggaatccg  
481 atttgaanaa aggtccacat gagttctgct ctacagatac acttttcata aaggacggtg  
541 acgatgggta cttcctacct tatccagacc ctcaagaat tttgtctgcc ggttgcttcg  
601 ttgatgacat cgcaagaca gacggtacgc tcatggttga gagattcgtg tcattggcaa  
661 tagacgctta tctctcagc aagcatgatg atcctgaata ccaaatgta ttctgggtgt  
721 atttacagta tatagaaaaa ctgtataaag acctaacagg acacatgctt gacagttatt  
781 ctgctcatgct atgtggtgat aattcagcca aattttggga agagagcttc tatagagacc  
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901 cgctgcttcg tt

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LOCUS MN312867 355 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate YC131468 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.  
ACCESSION MN312867  
VERSION MN312867  
KEYWORDS .  
SOURCE Bat SARS-like coronavirus  
ORGANISM Bat SARS-like coronavirus  
Viruses; Riboviria; Nidovirales; Coronavirineae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.  
REFERENCE 1 (bases 1 to 355)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.  
TITLE Origin and cross-species transmission of bat coronaviruses in China  
JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 355)  
AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission  
JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China  
FEATURES Location/Qualifiers  
source 1..355  
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/mol\_type="genomic RNA"  
/isolate="YC131468"  
/host="Rhinolophus ferrumequinum"  
/db\_xref="taxon:1508227"  
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CDS <1..>355  
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RLYECLYRNRDVDHKF"

#### ORIGIN

1 agagccatgc ctaacatgct tagaattatg gcttctcttg ttcttgctcg caaacatagc  
61 acttgctgta acttgtcaca ccgtttctat agattagcta atgagtgtgc acaagtatta  
121 agtgagatgg tcatgtgtgg aggctcacta tatgtaaaac caggtggaac atcatcaggt  
181 gatgccacaa ctgcttatgc taatagtgtg ttaacattt gtcaagcggg gacagctaat  
241 gtaaagcac tctttcaac tgatggtaac aagattgctg acaagtacgt tcgcaacctc  
301 caacacaggc tatatgagtg ttctataga aatagagacg ttgatcataa atttg

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LOCUS MN312868 355 bp RNA linear VRL 07-NOV-2019  
DEFINITION Bat SARS-like coronavirus isolate YC131481 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312868

VERSION MN312868

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronaviridae;

Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 355)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 355)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,

Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..355  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="YC131481"  
/host="Rhinolophus ferrumequinum"  
/db\_xref="taxon:1508227"  
/country="China"  
gene <1..>355  
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CDS <1..>355  
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RLYECLYRNRDVDHEF"

#### ORIGIN

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61 acttgttgta acttgcaca cggttctat agattagcta atgagtgtgc acaagtatta  
121 agtgagatgg tcattgtcgg aggctcacta tatgtaaacc caggtggaac atcatcaggt  
181 gatgccacaa ctgcctacgc taatagtgtg ttaacattt gcaagctgt gacagcta  
241 gtaaattgac ttctctcaac tgatggtaac aagattgctg acaagtacgt tcgcaacctc  
301 caacacaggc tatatgagtg ttcttataga aatagagacg ttgatcatga atttg

//

LOCUS MN312869 344 bp RNA linear VRL 07-NOV-2019

DEFINITION Bat SARS-like coronavirus isolate YX131457 RNA-dependent RNA  
polymerase (RdRp) gene, partial cds.

ACCESSION MN312869

VERSION MN312869

KEYWORDS .

SOURCE Bat SARS-like coronavirus

ORGANISM Bat SARS-like coronavirus

Viruses; Riboviria; Nidovirales; Coronavirinae; Coronaviridae;  
Orthocoronavirinae; Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 344)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Origin and cross-species transmission of bat coronaviruses in China

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 344)

AUTHORS Latinne,A., Hu,B., Zhu,G., Zhang,L., Olival,K.J.,  
Zambrana-Torrel,C., Li,B., Zhang,W., Shi,Z. and Daszak,P.

TITLE Direct Submission

JOURNAL Submitted (13-AUG-2019) Key laboratory of special pathogens and  
biosafety, CAS, Wuhan Institute of Virology, Chinese Academy of  
Sciences, No. 44 Xiao Hong Shan, Wuhan, Hubei 430071, China

FEATURES Location/Qualifiers

source 1..344  
/organism="Bat SARS-like coronavirus"  
/mol\_type="genomic RNA"  
/isolate="YX131457"  
/host="Rhinolophus ferrumequinum"  
/db\_xref="taxon:1508227"

gene /country="China"  
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CDS <1..>344  
/gene="RdRp"  
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/protein\_id="QGA88489"  
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SLYVKPGGTSSGDATTAYANSVFNICQAVTANVNALLSTDGNKIADKYVRNLQHRLYE  
CLYRNRDVDHEF"

ORIGIN

1 taacatgctt agaattatgg ctctcttgt tcttgctgc aaacatagca cttgctgtaa  
61 cttgtcacac cgttctata gattagctaa tgagtgtgca caagtattaa gtgagatggt  
121 catgtgtgga ggctcactat atgtaaaacc aggtggaaca tcatcaggtg atgccacaac  
181 tgcttatgct aatagtgtgt ttaacatttg tcaagcggtg acagctaatg taaatgcact  
241 tcttcaact gatggaaca agattgctga caagtacgtt cgcaacctcc aacacaggct  
301 atatgagtgt ctctatagaa atagagacgt tgatcatgaa tttg

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