New variants with several spike mutations (20I/S01Y.V1) have been associated with increased transmissibility. Whether HMN.19B will be less susceptible to protection by natural, therapeutic, or vaccine-induced immune responses remains to be determined. Several of its spike substitutions (N501Y, L452R, and H655Y) have been shown to require higher levels of neutralizing antibodies to be controlled, both in vitro and in vivo (3,4; Liu et al., unpub. data, https://doi.org/10.1101/2020.11.06.372037).

In conclusion, we report a new SARS-CoV-2 variant circulating in France. Our results emphasize the need for careful molecular surveillance of SARS-CoV-2 evolution to track emergence of any new variant of interest with potential epidemiologic or pathophysiologic consequences.

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Undocumented Migrants Reintroducing COVID-19, Yunnan Province, China

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To limit the spread of severe acute respiratory syndrome coronavirus 2, the government of China has been monitoring infected travelers and minimizing cold-chain contamination. However, other factors might contribute to recurring outbreaks. We analyze the role of undocumented migrants as potential transmitters of severe acute respiratory syndrome coronavirus 2 in China.

China’s efforts to suppress coronavirus disease (COVID-19), the illness caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), rely on rigorous quarantine measures. These measures contributed to a decline in COVID-19 cases; no new locally acquired cases were reported in China on March 18, 2020 (http://www.nhc.gov.cn/xcs/yqtb/list_gzbd_10.shtml). As a result, the focus of epidemic control and prevention work has shifted from local to imported cases of COVID-19. Although viral spread has been contained by mandates minimizing travel and cold-chain contamination (1), recurring COVID-19 outbreaks might be caused by other factors and pathways. On September 14, 2020, the discovery of 2 SARS-CoV-2–infected undocumented migrants from Myanmar prompted large-scale testing of >280,000 persons in Ruili, Yunnan Province, China (Figure). On March 31, 2020, the Yunnan Provincial Leading Group for COVID-19 Epidemic Response published Notice No. 15 (http://www.yn.gov.cn/ztgg/yqfk/list_gzbd_10.shtml), which outlined strict measures to prevent COVID-19 importation from land and water ports. This notice discouraged citizens of adjacent countries from entering Yunnan Province; if entry was required, then those

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citizens should enter Yunnan Province via 1 of 19 official land ports (Appendix Table 1, https://wwwnc.cdc.gov/EID/article/27/5/20-4944-App1.pdf). Before continuing their travels, these persons needed to undergo 14 days of quarantine and test negative for SARS-CoV-2 by nucleic acid amplification test. On September 3, 2020, two undocumented migrants with no history of rejection at any official port crossed the Ruili River from Nankan (Myanmar) to Ruili. Patient 1, who had lost her senses of smell and taste for 1 week before diagnosis, received a COV-19 diagnosis on September 12, 2020, ending a 139-day period in which no new cases had been reported in Yunnan Province. In Myanmar, she had not had contact with any known COVID-19 patient. Officials identified 201 close contacts of patient 1 in Yunnan Province; these contacts were then tested for SARS-CoV-2. All contacts tested negative except the person who had entered China with patient 1. Because of the 9-day delay between entry and diagnosis, whether community transmission had occurred was unknown.

To evaluate potential spread, we undertook a large-scale SARS-CoV-2 screening campaign of >280,000 citizens and legal migrants in Ruili during September 15–19, 2020. We did not detect any cases of community transmission, possibly because of patient 1’s low viral load; she had a mild case of COVID-19, with normal lung physiology and an N-gene cycle threshold of 37.41, suggesting a low level of infectiousness (2) (Appendix Figure 1). Patient 1 also wore a mask in public, potentially hindering COVID-19 transmission. In addition, patient 2 did not spend much time in public, further reducing potential for transmission. Although this event did not cause community spread of SARS-CoV-2 in Ruili, it highlights the need to curb undocumented immigration to prevent recurring outbreaks of COVID-19. This need is especially relevant in Yunnan Province, which shares a 4,060-km border with Myanmar, Laos, and Vietnam. The border spans 8 cities and 25 counties of China.

To evaluate potential variations in SARS-CoV-2 sequences for the 2 cases, we conducted whole-genome sequencing (3) of high-quality reads mapped to a reference sequence from Wuhan (GenBank accession no. MN908947.3). We deposited consensus sequences in GISAID (https://www.gisaid.org) under accession
nos. EPI_ISL_632934 and EPI_ISL_632935. Sequence alignment analyses (4) revealed that the 2 SARS-CoV-2 sequences from Ruili shared 13 mutations: C241T, C3037T, G11083T, C14408T, G18756T, C18877T, C22444T, A23403G, G25494T, G25563T, C26735T, C28854T, and G29737C (Appendix Figure 2) (5,6). According to the Pangolin COVID-19 Lineage Assigner (7), 9 of these mutations (i.e., C241T, C3037T, C14408T, C18877T, C22444T, A23403G, G25563T, C26735T, and C28854T) indicate membership in the B.1.36 clade of SARS-CoV-2. Further phylogenetic analyses supported this conclusion (Appendix Table 2, Figure 3). Compared with sequences from earlier COVID-19 outbreaks in Beijing Xinfadi Market (1,8), Dalian (9), and Qingdao, the Ruili sequences had 7 previously unreported mutations (Appendix Figure 2, panel B) (5). The Ruili cases were not associated with the mentioned outbreaks and were probably imported.

Although the SARS-CoV-2-infected migrants did not cause a COVID-19 outbreak, the event illustrates a transmission pathway distinct from air travel and cold-chain food transmission (1). The International Health Regulations and World Health Organization encourage open borders and suggest that COVID-19 control measures be applied only in limited circumstances (10). In 2020, official land ports in Yunnan Province did not close for the COVID-19 pandemic. Because of the long international border, epidemic control remains challenging in this province. Governments should control illegal immigration to avoid future reintroductions of COVID-19. Regional guidelines for COVID-19 control and prevention should strengthen surveillance of undocumented movement across borders, especially from neighboring countries with high rates of infection.

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The order of the authors was incorrect for Drug-Resistant Tuberculosis in Pet Ring-Tailed Lemur, Madagascar (M. LaFleur et al.). The article has been corrected online (https://wwwnc.cdc.gov/eid/article/27/3/20-2924_article).
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Appendix

Activity Log of Patient 1

On September 3, 2020, patient 1 arrived at the Aoxingshiji community after sneaking into Ruili, Yunnan Province, China and remained indoors that night. On September 4, she shopped at the mall and returned home. On September 5, patient 1 stayed at home. On September 6, she went to the mall in the evening, visited Nongmohu Park, and returned home. On September 7, patient 1 visited relatives, went to a Taibeichangdi restaurant, and returned home. On September 8, patient 1 stayed at home. On September 9, patient 1 went to the gym to exercise and then returned home. On September 10, she sought care at the Department of Cardiology, Ruili People's Hospital (Ruili, China) for heart discomfort, and then went to the outpatient department of Jingcheng Hospital in Ruili, where she fraudulently used another person's identifying information. She provided a sample for nucleic acid amplification test and returned home. On September 11, patient 1 stayed at home. On September 12, she received the positive result of the reverse transcription PCR (RT-PCR) for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) from Jingcheng Hospital and was then transferred to Ruili People's Hospital by a negative pressure ambulance for treatment and isolation.

Activity Log of Patient 2

Patient 2 was the servant of patient 1. She arrived at the Aoxingshiji community after sneaking into Ruili with patient 1 on September 3, 2020 and remained indoors that night. On
September 4–5, patient 2 stayed at home. On September 6, patient 2 went to Nongmohu Park with patient 1 and returned home. On September 7–11, patient 2 stayed at home. On September 12, when technicians were conducting nucleic acid amplification tests on close contacts of patient 1, patient 2’s result of SARS-CoV-2 was found to be positive. Patient 2 was transferred to Ruili People's Hospital by a negative pressure ambulance for treatment and isolation.

**SARS-CoV-2 RNA Detection**

We extracted total nucleic acids using an automatic preparation system (NP968, Tianlong, http://www.medtl.com). We analyzed the nucleic acids by real-time quantitative RT-PCR according to the protocol recommended by China National Health Commission (Appendix Figure 1) (I).

**Sequencing Library Construction**

We conducted 1-step amplification for the nucleic acids using the SARS-COV-2 genome-wide capture amplification kit (V-090418, MicroFuture, http://www.vmfuture.com). We purified the PCR amplification products with the MinElute PCR Purification Kit (QIAGEN, https://www.qiagen.com) and qualified their concentrations with the Invitrogen Qubit 2.0 Fluorometer (Thermo Fisher Scientific, https://www.thermofisher.com). Then, we constructed the complementary DNA libraries using Nextera XT DNA Library Preparation Kit (Illumina, Inc., https://www.illumina.com) according to the manufacturer’s instructions and sequenced them on the Illumina MiSeq platform with 2 × 150 paired-end mode using 300-cycle MiSeq version 2 reagent kits (Illumina, Inc.).

**Sequencing Data Analysis**

We sequenced >4.5 Gb; >90% had a base quality score >Q30, indicating a <0.1% error rate. We trimmed the raw sequencing reads using CLC Genomics Workbench version 12.
software (QIAGEN) with quality scores ≥0.05 and ambiguous nucleotides ≤2. We trimmed the 5′ sequencing adaptor by removing 5 terminal nucleotides and the 3′ by removing 18 terminal nucleotides. Then, we mapped the high-quality reads to the Wuhan-Hu-1 reference (GenBank accession no. MN908947.3) using the following mapping options: match score = 1; mismatch cost = 2 (linear gap cost); length fraction = 0.5; similarity fraction = 0.8; autodetect paired distance; nonspecific match handling: map randomly. We obtained the consensus sequences for downstream analysis.

Evolutionary and Mutational Analysis

We downloaded 110,596 high-quality reference sequences from 6 continents from the GISAID database (https://www.gisaid.org) on September 15, 2020. To ensure that analyses were robust, we randomly extracted 1 sequence per month (collection date) from each country. Including the Wuhan-Hu-1 reference and 2 Ruili sequences, a total of 592 sequences were aligned by using MAFFT version 7 (2) using the default options (Appendix Table 2). We obtained the mutation sites using the robust alignments. Then we applied RAxML version 8 (3) to construct the evolutionary phylogeny using the GTRGAMMA model under a bootstrap value of 200.

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**Appendix Table 1.** Official land ports, Yunnan Province, China, 2020

| No. | Name                                |
|-----|-------------------------------------|
| 1   | Houqiao of Baoshan                  |
| 2   | Hekou highway of Honghe             |
| 3   | Hekou railway of Honghe             |
| 4   | Jinshuihe of Honghe                 |
| 5   | Tianbao of Wenshan                  |
| 6   | Dulong of Wenshan                   |
| 7   | Tianpeng of Wenshan                 |
| 8   | Menga of Puer                       |
| 9   | Mengkang of Puer                    |
| 10  | Mohan of Xishuangbanna              |
| 11  | Daluo of Xishuangbanna              |
| 12  | Ruili of Dehong                     |
| 13  | Wanding of Dehong                   |
| 14  | Zhangfeng of Dehong                 |
| 15  | Nabang of Dehong                    |
| 16  | Pianma of Nujiang                   |
| 17  | Qingshuihe of Lincang               |
| 18  | Yonghe of Lincang                   |
| 19  | Nansan of Lincang                   |
## Appendix Table 2. Comparison of severe acute respiratory syndrome coronavirus 2 sequences from various sources and undocumented migrants, Yunnan Province, China, 2020

| GISAID ID     | Strain                                        | Collection date* |
|---------------|-----------------------------------------------|------------------|
| EPI_ISL_417186 | hCoV-19/South Africa/R03006/2020              | 2020 Mar 7       |
| EPI_ISL_417941 | hCoV-19/DRC/73/2020                           | 2020 Mar 7       |
| EPI_ISL_431011 | hCoV-19/DRC/1319/2020                         | 2020 Apr 7       |
| EPI_ISL_455412 | hCoV-19/Nigeria/OG007-CV22/2020               | 2020 Mar 29      |
| EPI_ISL_455431 | hCoV-19/Nigeria/OY045A-CV35/2020              | 2020 Apr 2       |
| EPI_ISL_463001 | hCoV-19/Tunisia/COV0010-12/2020               | 2020 Mar 18      |
| EPI_ISL_463004 | hCoV-19/Tunisia/COV1663/2020                  | 2020 Apr 1       |
| EPI_ISL_467433 | hCoV-19/South Africa/KRISP-0017/2020          | 2020 Apr 3       |
| EPI_ISL_483035 | hCoV-19/Egypt/MASRI-009/2020                  | 2020 Apr 30      |
| EPI_ISL_483036 | hCoV-19/Egypt/MASRI-018/2020                  | 2020 May 10      |
| EPI_ISL_485635 | hCoV-19/Senegal/68349/2020                    | 2020 Jun 18      |
| EPI_ISL_487446 | hCoV-19/Mali/M002593/2020                     | 2020 Apr 6       |
| EPI_ISL_498100 | hCoV-19/South Africa/KRISP-0561/2020          | 2020 Jul 15      |
| EPI_ISL_529800 | hCoV-19/South Africa/KRISP-K002806/2020       | 2020 Aug 25      |
| EPI_ISL_561134 | hCoV-19/Gambia/GC19-2707/2020                 | 2020 Jul 21      |
| EPI_ISL_451183 | hCoV-19/Uganda/UG001/2020                     | 2020 Mar 25      |
| EPI_ISL_451400 | hCoV-19/Morocco/OUA877-19/2020                | 2020 Apr 23      |
| EPI_ISL_467500 | hCoV-19/South Africa/KRISP-0150/2020          | 2020 May 30      |
| EPI_ISL_467501 | hCoV-19/South Africa/KRISP-0151/2020          | 2020 Jun 1       |
| EPI_ISL_471456 | hCoV-19/Morocco/HMIMV-Rabat102-03/2020        | 2020 Mar 31      |
| EPI_ISL_477161 | hCoV-19/Egypt/CUNCI-HGC61029/2020             | 2020 Jun 2       |
| EPI_ISL_480783 | hCoV-19/Senegal/1683/2020                     | 2020 Mar 31      |
| EPI_ISL_480789 | hCoV-19/Senegal/1966/2020                     | 2020 Apr 1       |
| EPI_ISL_527901 | hCoV-19/Nigeria/OY605-CV170/2020              | 2020 Jun 12      |
| EPI_ISL_451197 | hCoV-19/Uganda/UG015/2020                     | 2020 Apr 27      |
| EPI_ISL_471158 | hCoV-19/Gambia/0214/2020                      | 2020 Mar 29      |
| EPI_ISL_471163 | hCoV-19/Gambia/0536/2020                      | 2020 Apr 30      |
| EPI_ISL_471167 | hCoV-19/Gambia/1094/2020                      | 2020 May 4       |
| EPI_ISL_476822 | hCoV-19/Benin/197/2020                       | 2020 Mar 15      |
| EPI_ISL_476825 | hCoV-19/Benin/1408/2020                      | 2020 Apr 4       |
| EPI_ISL_487101 | hCoV-19/Nigeria/OY260-CV55/2020               | 2020 May 16      |
| EPI_ISL_496492 | hCoV-19/DRC/5240/2020                         | 2020 May 3       |
| EPI_ISL_498238 | hCoV-19/Senegal/45436/2020                    | 2020 May 27      |
| EPI_ISL_515100 | hCoV-19/Ghana/82879_S48/2020                  | 2020 May 20      |
| EPI_ISL_524426 | hCoV-19/Egypt/CUNCI-71028/2020                | 2020 Jul 19      |
| EPI_ISL_561038 | hCoV-19/Gambia/GC19-1983/2020                 | 2020 Jun 7       |
| GISAID ID    | Strain                                      | Collection date* |
|-------------|---------------------------------------------|------------------|
| EPI_ISL_568847 | hCoV-19/Kenya/C7605/2020                   | 2020 May 16      |
| EPI_ISL_568872 | hCoV-19/Kenya/C21582/2020                  | 2020 Jun 22      |
| EPI_ISL_581486 | hCoV-19/Congo/UKT-001/2020                 | 2020 Apr         |
| EPI_ISL_581487 | hCoV-19/Congo/UKT-002/2020                 | 2020 Jul 4       |
| EPI_ISL_581488 | hCoV-19/Congo/UKT-004/2020                 | 2020 May         |
| EPI_ISL_581489 | hCoV-19/Congo/UKT-005/2020                 | 2020 Jun 6       |
| EPI_ISL_602800 | hCoV-19/South Africa/KRISP-K003466/2020    | 2020 Sep 13      |
| EPI_ISL_457827 | hCoV-19/Kenya/NIC_059/2020                | 2020 Mar         |
| EPI_ISL_458150 | hCoV-19/Morocco/15Ni/2020                | 2020 May 15      |
| EPI_ISL_508862 | hCoV-19/Madagascar/IP-01650/2020          | 2020 Mar 20      |
| EPI_ISL_515181 | hCoV-19/Ghana/KATH23/2020                 | 2020 Mar 22      |
| EPI_ISL_539573 | hCoV-19/Gabon/ITM-K011/2020               | 2020 Mar 22      |
| EPI_ISL_418241 | hCoV-19/Algeria/G0638_2264/2020          | 2020 Mar 2       |
| EPI_ISL_451202 | hCoV-19/Uganda/UG020/2020                  | 2020 May 1       |
| EPI_ISL_457854 | hCoV-19/Kenya/C1216/2020                 | 2020 Apr 19      |
| EPI_ISL_476559 | hCoV-19/Morocco/refstage1/2020            | 2020 Feb 27      |
| EPI_ISL_510529 | hCoV-19/Zambia/29/2020                   | 2020 Mar 16      |
| EPI_ISL_522547 | hCoV-19/Reunion/RUN-PiMiT1/2020           | 2020 Mar 24      |
| EPI_ISL_526975 | hCoV-19/Egypt/EGY-020/2020                | 2020 Aug 14      |
| EPI_ISL_527873 | hCoV-19/Nigeria/ED01-CV155/2020           | 2020 Feb 21      |
| EPI_ISL_418206 | hCoV-19/Senegal/003/2020                  | 2020 Feb 28      |
| EPI_ISL_512811 | hCoV-19/Sierra Leone/KGH-G-8548/2020     | 2020 Mar 30      |
| EPI_ISL_512813 | hCoV-19/Sierra Leone/KGH-G-8603/2020     | 2020 Apr 23      |
| EPI_ISL_561288 | hCoV-19/Gambia/NPHL-2712/2020            | 2020 Aug 3       |
| EPI_ISL_605780 | hCoV-19/Egypt/C-CEIRS-19 MOH/2020        | 2020 Mar 13      |
| EPI_ISL_560386 | hCoV-19/Botswana/BOT0455/2020            | 2020 Mar 28      |
| EPI_ISL_591086 | hCoV-19/DRC/16191/2020                   | 2020 Jun 3       |
| EPI_ISL_539496 | hCoV-19/Andorra/202552/2020             | 2020 Mar 13      |
| EPI_ISL_437932 | hCoV-19/Austria/CeMM0045/2020           | 2020 Feb 24      |
| EPI_ISL_437996 | hCoV-19/Austria/CeMM0148/2020           | 2020 Mar 2       |
| EPI_ISL_475824 | hCoV-19/Austria/CeMM0381/2020           | 2020 Apr 1       |
| EPI_ISL_583847 | hCoV-19/Austria/CeMM1007/2020           | 2020 May 2       |
| EPI_ISL_583883 | hCoV-19/Austria/CeMM1077/2020           | 2020 Jun 30      |
| EPI_ISL_583885 | hCoV-19/Austria/CeMM1083/2020          | 2020 Jul 19      |
| EPI_ISL_583887 | hCoV-19/Austria/CeMM1091/2020          | 2020 Aug 3       |
| EPI_ISL_419692 | hCoV-19/Belarus/ChVir2072/2020         | 2020 Mar         |
| EPI_ISL_407976 | hCoV-19/Belgium/GHB-03021/2020        | 2020 Feb 3       |
| EPI_ISL_418987 | hCoV-19/Belgium/CG-030158/2020        | 2020 Mar 1       |
| GISAID ID     | Strain                                      | Collection date* |
|---------------|---------------------------------------------|------------------|
| EPI_ISL_434371| hCoV-19/Belgium/ITM_C233/2020              | 2020 Apr 1       |
| EPI_ISL_476996| hCoV-19/Belgium/rega-0501480/2020          | 2020 May 1       |
| EPI_ISL_475082| hCoV-19/Belgium/UGent-122/2020             | 2020 Jun 1       |
| EPI_ISL_498149| hCoV-19/Belgium/ULG-10243/2020             | 2020 Jul 3       |
| EPI_ISL_540507| hCoV-19/Belgium/ULG-10340/2020             | 2020 Aug 4       |
| EPI_ISL_582129| hCoV-19/Belgium/ITM-C5184/2020             | 2020 Sep 13      |
| EPI_ISL_462450| hCoV-19/Bosnia and Herzegovina/ChVir7340/2020 | 2020 Mar 17     |
| EPI_ISL_462472| hCoV-19/Bosnia and Herzegovina/ChVir7382/2020 | 2020 Apr 1       |
| EPI_ISL_462753| hCoV-19/Bosnia and Herzegovina/01-Lvno/2020 | 2020 May 27      |
| EPI_ISL_467778| hCoV-19/Bucuresti/ChVir7244/2020          | 2020 Apr 27      |
| EPI_ISL_480310| hCoV-19/Bulgaria/41/2020                   | 2020 Mar 10      |
| EPI_ISL_480300| hCoV-19/Bulgaria/17/2020                   | 2020 Apr 14      |
| EPI_ISL_480302| hCoV-19/Bulgaria/21/2020                   | 2020 May 7       |
| EPI_ISL_428901| hCoV-19/Crimea/SRC-80603/2020              | 2020 Mar 23      |
| EPI_ISL_429659| hCoV-19/Croatia/OY-S1/2020                 | 2020 Mar         |
| EPI_ISL_454574| hCoV-19/Croatia/OY-S1new/2020              | 2020 Apr 9       |
| EPI_ISL_463741| hCoV-19/Cyprus/001/2020                    | 2020 Mar 11      |
| EPI_ISL_463745| hCoV-19/Cyprus/005/2020                    | 2020 Apr 1       |
| EPI_ISL_416742| hCoV-19/Czech Republic/Ch Vir1630/2020     | 2020 Feb 29      |
| EPI_ISL_414477| hCoV-19/Czech Republic/951/2020            | 2020 Mar 1       |
| EPI_ISL_491118| hCoV-19/Czech Republic/NRL-5752/2020       | 2020 Apr 1       |
| EPI_ISL_584073| hCoV-19/Czech Republic/NRL-6847-2/2020     | 2020 May 10      |
| EPI_ISL_541082| hCoV-19/Czech Republic/NRL-7000/2020       | 2020 Jun 10      |
| EPI_ISL_546436| hCoV-19/Czech Republic/NRL-7950/2020       | 2020 Jul 22      |
| EPI_ISL_546935| hCoV-19/Czech Republic/NRL-8118-1/2020     | 2020 Aug 5       |
| EPI_ISL_584081| hCoV-19/Czech Republic/NRL-8598/2020       | 2020 Sep 3       |
| EPI_ISL_416142| hCoV-19/Denmark/SSI-01/2020                | 2020 Feb 26      |
| EPI_ISL_416144| hCoV-19/Denmark/SSI-03/2020                | 2020 Mar 1       |
| EPI_ISL_437630| hCoV-19/Denmark/ALAB-SSI-1046/2020         | 2020 Apr 1       |
| EPI_ISL_452098| hCoV-19/Denmark/ALAB-HH-267/2020           | 2020 May 9       |
| EPI_ISL_407071| hCoV-19/England/01/2020                    | 2020 Jan 29      |
| EPI_ISL_464302| hCoV-19/England/201040021/2020             | 2020 Feb 3       |
| EPI_ISL_417213| hCoV-19/England/20102068502/2020           | 2020 Mar 1       |
| EPI_ISL_432727| hCoV-19/England/SHEF-C1645/2020            | 2020 Apr 1       |
| EPI_ISL_448391| hCoV-19/England/NOTT-110B74/2020           | 2020 May 1       |
| EPI_ISL_472057| hCoV-19/England/LIVE-9FCE4/2020            | 2020 Jun 1       |
| EPI_ISL_493608| hCoV-19/England/NOTT-112CCA/2020           | 2020 Jul 1       |
| EPI_ISL_514346| hCoV-19/England/203290063/2020             | 2020 Aug 1       |
| GISAID ID   | Strain                                      | Collection date* |
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| EPI_ISL_540753 | hCoV-19/England/SHEF-CB03E/2020             | 2020 Sep 1       |
| EPI_ISL_420540 | hCoV-19/Estonia/ChVir2148/2020              | 2020 Mar         |
| EPI_ISL_526937 | hCoV-19/Faroe Islands/HFS-04/2020          | 2020 Mar 12      |
| EPI_ISL_407079 | hCoV-19/Finland/1/2020                      | 2020 Jan 29      |
| EPI_ISL_413602 | hCoV-19/Finland/FIN03032020A/2020           | 2020 Mar 3       |
| EPI_ISL_481649 | hCoV-19/Finland/2A92SVIIIC/2020             | 2020 Apr 2       |
| EPI_ISL_481674 | hCoV-19/Finland/4May21S4/2020               | 2020 May 4       |
| EPI_ISL_406596 | hCoV-19/France/IDF-0372/2020               | 2020 Jan 23      |
| EPI_ISL_411218 | hCoV-19/France/IDF-0571/2020               | 2020 Feb 2       |
| EPI_ISL_434616 | hCoV-19/France/OCC-1/2020                  | 2020 Mar         |
| EPI_ISL_443279 | hCoV-19/France/BRE-5434/2020               | 2020 Apr 1       |
| EPI_ISL_510527 | hCoV-19/France/PAC-FR/2020                 | 2020 May 1       |
| EPI_ISL_568994 | hCoV-19/France/PAC-IHU-0928/2020           | 2020 Jun 5       |
| EPI_ISL_568998 | hCoV-19/France/PAC-IHU-0942/2020           | 2020 Jul 2       |
| EPI_ISL_560607 | hCoV-19/France/BRE-8939/2020               | 2020 Aug 1       |
| EPI_ISL_603218 | hCoV-19/France/OCC-82/2020                 | 2020 Sep 30      |
| EPI_ISL_450201 | hCoV-19/Germany/CHVIR-1247/2020            | 2020 Jan         |
| EPI_ISL_450203 | hCoV-19/Germany/CHVIR-1289/2020            | 2020 Feb 1       |
| EPI_ISL_602518 | hCoV-19/Germany/NW-HHU-148/2020            | 2020 Mar 1       |
| EPI_ISL_437278 | hCoV-19/Germany/BY-MVP-0084/2020           | 2020 Apr 1       |
| EPI_ISL_466905 | hCoV-19/Germany/CHVIR-1289/2020            | 2020 May 2       |
| EPI_ISL_488501 | hCoV-19/Germany/NW-MPP-21/2020             | 2020 Jun 5       |
| EPI_ISL_539596 | hCoV-19/Germany/NW-HHU-80/2020             | 2020 Aug 16      |
| EPI_ISL_547444 | hCoV-19/Gibraltar/203360729/2020           | 2020 Jul 21      |
| EPI_ISL_547436 | hCoV-19/Gibraltar/203260482/2020           | 2020 Aug 3       |
| EPI_ISL_430469 | hCoV-19/Greece/127_HPI/2020                | 2020 Feb 29      |
| EPI_ISL_437894 | hCoV-19/Greece/234_31670/2020              | 2020 Mar 5       |
| EPI_ISL_437910 | hCoV-19/Greece/52_37266/2020               | 2020 Apr 1       |
| EPI_ISL_501233 | hCoV-19/Greece/19553_HPI/2020              | 2020 May 3       |
| EPI_ISL_418183 | hCoV-19/Hungary/mbl2/2020                  | 2020 Mar 17      |
| EPI_ISL_435418 | hCoV-19/Hungary/SRC-01136/2020             | 2020 Apr 2       |
| EPI_ISL_526236 | hCoV-19/Hungary/MH-6603/2020               | 2020 May 8       |
| EPI_ISL_526224 | hCoV-19/Hungary/MH-9653/2020               | 2020 Jun 4       |
| EPI_ISL_526225 | hCoV-19/Hungary/MH-13211/2020              | 2020 Jul 6       |
| EPI_ISL_417765 | hCoV-19/Iceland/13/2020                    | 2020 Feb 27      |
| EPI_ISL_424367 | hCoV-19/Iceland/343/2020                   | 2020 Mar         |
| EPI_ISL_414586 | hCoV-19/Ireland/LK-NVRL-19934/2020         | 2020 Mar 3       |
| EPI_ISL_437684 | hCoV-19/Ireland/un-NVRL-20W266/2020        | 2020 Apr         |
| GISAID ID    | Strain                          | Collection date* |
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| EPI_ISL_501259 | hCoV-19/Ireland/LH-NVRL-20IRL22956/2020 | 2020 May 27     |
| EPI_ISL_500573 | hCoV-19/Ireland/SO-NVRL-70IRL90620/2020 | 2020 Jul 2      |
| EPI_ISL_525371 | hCoV-19/Ireland/CN-NVRL-71IRL96106/2020 | 2020 Aug 1      |
| EPI_ISL_578308 | hCoV-19/Ireland/KK-NVRL-73IRL21709/2020 | 2020 Sep 4      |
| EPI_ISL_410545 | hCoV-19/Italy/LAZ-INMI1-isl/2020 | 2020 Jan 29     |
| EPI_ISL_451300 | hCoV-19/Italy/LAZ-INMI1-N/2020 | 2020 Feb 3      |
| EPI_ISL_417418 | hCoV-19/Italy/FVG-ICGEB-S1/2020 | 2020 Mar 1      |
| EPI_ISL_452189 | hCoV-19/Italy/VEN-iZSve-33-126/2020 | 2020 Apr 1      |
| EPI_ISL_522859 | hCoV-19/Italy/VEN-iZSve-51635/2020 | 2020 May 1      |
| EPI_ISL_525572 | hCoV-19/Italy/APU-UniMt-64PT/2020 | 2020 Jun 1      |
| EPI_ISL_525587 | hCoV-19/Italy/FVG-ICGEB-S208/2020 | 2020 Jul       |
| EPI_ISL_584072 | hCoV-19/Italy/CAM-IZSM-183/2020 | 2020 Sep 12     |
| EPI_ISL_419691 | hCoV-19/Latvia/ChVir2025/2020 | 2020 Mar        |
| EPI_ISL_450519 | hCoV-19/Latvia/019/2020 | 2020 Apr 14     |
| EPI_ISL_486391 | hCoV-19/Latvia/026/2020 | 2020 May 3      |
| EPI_ISL_501286 | hCoV-19/Latvia/070/2020 | 2020 Jun 5      |
| EPI_ISL_525598 | hCoV-19/Latvia/063/2020 | 2020 Jul 3      |
| EPI_ISL_515196 | hCoV-19/Latvia/109/2020 | 2020 Aug 3      |
| EPI_ISL_416741 | hCoV-19/Lithuania/ChVir1632/2020 | 2020 Feb        |
| EPI_ISL_450496 | hCoV-19/Lithuania/ChVir2225/2020 | 2020 Mar        |
| EPI_ISL_541868 | hCoV-19/Lithuania/MR-LUHS-Eilnr6/2020 | 2020 Apr 2     |
| EPI_ISL_560401 | hCoV-19/Lithuania/C20-05-R5/2020 | 2020 May 18     |
| EPI_ISL_560405 | hCoV-19/Lithuania/C20-06-R20/2020 | 2020 Jun 3      |
| EPI_ISL_413593 | hCoV-19/Luxembourg/Lux1/2020 | 2020 Feb 29     |
| EPI_ISL_419566 | hCoV-19/Luxembourg/LNS0641910/2020 | 2020 Mar 5      |
| EPI_ISL_429722 | hCoV-19/Luxembourg/LNS6137379/2020 | 2020 Apr 1      |
| EPI_ISL_445075 | hCoV-19/Luxembourg/LNS1586475/2020 | 2020 May 8      |
| EPI_ISL_576117 | hCoV-19/Malta/BAL-Sliema-1/2020 | 2020 Aug 19     |
| EPI_ISL_576118 | hCoV-19/Malta/BAL-Sliema-2/2020 | 2020 Sep 4      |
| EPI_ISL_523968 | hCoV-19/Moldova/ChVir7776/2020 | 2020 Mar 11     |
| EPI_ISL_516938 | hCoV-19/Moldova/ICGEB_MD6/2020 | 2020 Jun 17     |
| EPI_ISL_516922 | hCoV-19/Montenegro/ChVir-1265622002/2020 | 2020 Mar 17   |
| EPI_ISL_516925 | hCoV-19/Montenegro/ChVir-1793232002/2020 | 2020 Jul 17   |
| EPI_ISL_5454750 | hCoV-19/Netherlands/NoordHolland_10001/2020 | 2020 Feb 27   |
| EPI_ISL_413572 | hCoV-19/Netherlands/Haarlem_1363688/2020 | 2020 Mar 1     |
| EPI_ISL_422600 | hCoV-19/Netherlands/NA_291/2020 | 2020 Apr 1      |
| EPI_ISL_460835 | hCoV-19/Netherlands/Flevoland_12/2020 | 2020 May 1      |
| EPI_ISL_523134 | hCoV-19/Netherlands/FL-EMC-25/2020 | 2020 Jun 1      |
| GISAID ID       | Strain                              | Collection date* |
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| EPI_ISL_523659  | hCoV-19/Netherlands/ZH-EMC-317/2020 | 2020 Jul 1      |
| EPI_ISL_523712  | hCoV-19/Netherlands/ZH-EMC-372/2020 | 2020 Aug 1      |
| EPI_ISL_577944  | hCoV-19/Netherlands/ZH-EMC-516/2020 | 2020 Sep 1      |
| EPI_ISL_514354  | hCoV-19/North Macedonia/2175/2020  | 2020 Jun 2      |
| EPI_ISL_516428  | hCoV-19/North Macedonia/6497/2020  | 2020 Jul 8      |
| EPI_ISL_441410  | hCoV-19/Northern Ireland/NIRE-1023D7/2020 | 2020 Mar 10   |
| EPI_ISL_585175  | hCoV-19/Northern Ireland/NIRE-10822F/2020 | 2020 Apr 1   |
| EPI_ISL_469848  | hCoV-19/Northern Ireland/NIRE-100EE7/2020 | 2020 May 1   |
| EPI_ISL_488876  | hCoV-19/Northern Ireland/NIRE-FFOB9/2020 | 2020 Jun 1   |
| EPI_ISL_532578  | hCoV-19/Northern Ireland/QEUH-94390D/2020 | 2020 Jul 11  |
| EPI_ISL_532561  | hCoV-19/Northern Ireland/QEUH-943493/2020 | 2020 Aug 1 |
| EPI_ISL_585226  | hCoV-19/Northern Ireland/NIRE-FB30F/2020 | 2020 Sep 1 |
| EPI_ISL_590667  | hCoV-19/Northern Ireland/QEUH-9B8192/2020 | 2020 Sep 3 |
| EPI_ISL_417484  | hCoV-19/Norway/1380/2020              | 2020 Feb 26     |
| EPI_ISL_417486  | hCoV-19/Norway/1538/2020              | 2020 Mar 1      |
| EPI_ISL_449793  | hCoV-19/Norway/2388/2020              | 2020 Apr 2      |
| EPI_ISL_471176  | hCoV-19/Norway/2534/2020              | 2020 May 4      |
| EPI_ISL_549173  | hCoV-19/Norway/3171/2020              | 2020 Jun 19     |
| EPI_ISL_500773  | hCoV-19/Norway/2850/2020              | 2020 Jul 2      |
| EPI_ISL_549059  | hCoV-19/Norway/2957/2020              | 2020 Aug 1      |
| EPI_ISL_590903  | hCoV-19/Norway/3280/2020              | 2020 Sep 2      |
| EPI_ISL_435723  | hCoV-19/Poland/Wro-01/2020            | 2020 Mar        |
| EPI_ISL_455441  | hCoV-19/Poland/PL_P28/2020            | 2020 Apr 1      |
| EPI_ISL_451644  | hCoV-19/Poland/Pom3/2020              | 2020 May 2      |
| EPI_ISL_485399  | hCoV-19/Poland/IHG_PAS_4_67/2020     | 2020 Jun 1      |
| EPI_ISL_582031  | hCoV-19/Poland/IHG-PAS-8-29/2020     | 2020 Sep 5      |
| EPI_ISL_413647  | hCoV-19/Portugal/CV62/2020           | 2020 Mar 1      |
| EPI_ISL_454211  | hCoV-19/Portugal/PT0487/2020         | 2020 Apr 1      |
| EPI_ISL_454221  | hCoV-19/Portugal/PT0497/2020         | 2020 May 1      |
| EPI_ISL_491217  | hCoV-19/Portugal/IGC3996/2020        | 2020 Jun 1      |
| EPI_ISL_468134  | hCoV-19/Romania/Bucuresti-4105/2020  | 2020 Mar 21     |
| EPI_ISL_491085  | hCoV-19/Romania/ROSV_569/2020        | 2020 Apr 5      |
| EPI_ISL_491086  | hCoV-19/Romania/ROSV_5812/2020       | 2020 May 1      |
| EPI_ISL_471416  | hCoV-19/Romania/Buzau-291946/2020    | 2020 Jun 1      |
| EPI_ISL_467780  | hCoV-19/Romania/ChVir7246/2020       | 2020 Apr 26     |
| EPI_ISL_428860  | hCoV-19/Russia/Moscow-62505/2020     | 2020 Mar 11     |
| EPI_ISL_428878  | hCoV-19/Russia/Omsk-89001/2020       | 2020 Apr 1      |
| EPI_ISL_507205  | hCoV-19/Russia/Bryansk-RII24784S/2020| 2020 May        |
| GISAID ID      | Strain                                           | Collection date* |
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| EPI_ISL_524022 | hCoV-19/Russia/SPE-RII-18966V/2020              | 2020 Jun 1       |
| EPI_ISL_569828 | hCoV-19/Russia/OMS-ORINFI-2112S/2020            | 2020 Jul 2       |
| EPI_ISL_596353 | hCoV-19/Russia/PRI-RII-MH733S/2020              | 2020 Aug 6       |
| EPI_ISL_596233 | hCoV-19/Russia/LEN-RII-34268M/2020              | 2020 Sep         |
| EPI_ISL_413221 | hCoV-19/Scotland/CVR01/2020                    | 2020 Feb 28      |
| EPI_ISL_425807 | hCoV-19/Scotland/CVR77/2020                    | 2020 Mar 3       |
| EPI_ISL_433200 | hCoV-19/Scotland/EDB573/2020                   | 2020 Apr 1       |
| EPI_ISL_439337 | hCoV-19/Scotland/EDB3846/2020                  | 2020 May 1       |
| EPI_ISL_478154 | hCoV-19/Scotland/CVR3828/2020                  | 2020 Jun 1       |
| EPI_ISL_490704 | hCoV-19/Scotland/CVR3940/2020                  | 2020 Jul 3       |
| EPI_ISL_514537 | hCoV-19/Scotland/EDB7118/2020                  | 2020 Aug 1       |
| EPI_ISL_540786 | hCoV-19/Scotland/CVR3989/2020                  | 2020 Sep 1       |
| EPI_ISL_462434 | hCoV-19/Serbia/NS838-04/2020                   | 2020 Apr 1       |
| EPI_ISL_462435 | hCoV-19/Serbia/KV22-05/2020                    | 2020 May 10      |
| EPI_ISL_541656 | hCoV-19/Serbia/KV-0140707/2020                 | 2020 Jul 6       |
| EPI_ISL_516988 | hCoV-19/Slovakia/ChVir-1996/2020               | 2020 Mar         |
| EPI_ISL_572329 | hCoV-19/Slovakia/UKBA-101/2020                 | 2020 Apr 3       |
| EPI_ISL_577739 | hCoV-19/Slovakia/UKBA-208/2020                 | 2020 May 6       |
| EPI_ISL_577740 | hCoV-19/Slovakia/UKBA-209/2020                 | 2020 Jun 30      |
| EPI_ISL_577734 | hCoV-19/Slovakia/UKBA-201/2020                 | 2020 Jul 9       |
| EPI_ISL_583481 | hCoV-19/Slovakia/UKBA-313/2020                 | 2020 Sep 10      |
| EPI_ISL_420541 | hCoV-19/Slovenia/808/2020                      | 2020 Mar 5       |
| EPI_ISL_449799 | hCoV-19/Slovenia/MB0419/2020                   | 2020 Apr 19      |
| EPI_ISL_539531 | hCoV-19/Spain/CN-ISCIII-201048/2020            | 2020 Feb 24      |
| EPI_ISL_418245 | hCoV-19/Spain/CM-ISCIII-201328/2020            | 2020 Mar 1       |
| EPI_ISL_452371 | hCoV-19/Spain/AN-IBV-002058/2020               | 2020 Apr 1       |
| EPI_ISL_510448 | hCoV-19/Spain/AN-IBV-006119/2020               | 2020 May 2       |
| EPI_ISL_481100 | hCoV-19/Spain/MD-IBV-004983/2020               | 2020 Jun 1       |
| EPI_ISL_510439 | hCoV-19/Spain/AN-IBV-006108/2020               | 2020 Jul 2       |
| EPI_ISL_541904 | hCoV-19/Spain/MD-IBV-99007131/2020             | 2020 Aug 1       |
| EPI_ISL_582054 | hCoV-19/Spain/PV-IBV-98007584/2020             | 2020 Sep1        |
| EPI_ISL_476139 | hCoV-19/Sweden/20-02114/2020                   | 2020 Jan 31      |
| EPI_ISL_411951 | hCoV-19/Sweden/01/2020                         | 2020 Feb 7       |
| EPI_ISL_455848 | hCoV-19/Sweden/20-50056/2020                   | 2020 Mar 2       |
| EPI_ISL_434657 | hCoV-19/Sweden/20-06813/2020                   | 2020 Apr 1       |
| EPI_ISL_469055 | hCoV-19/Sweden/20-14262/2020                   | 2020 May 2       |
| EPI_ISL_475568 | hCoV-19/Sweden/20-51816/2020                   | 2020 Jun 1       |
| EPI_ISL_534235 | hCoV-19/Sweden/20-52288/2020                   | 2020 Jul 1       |
| GISAID ID    | Strain                                                                 | Collection date* |
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| EPI_ISL_534232 | hCoV-19/Sweden/20-08950/2020                                           | 2020 Aug 2       |
| EPI_ISL_615115 | hCoV-19/Sweden/20-52829/2020                                           | 2020 Sep 4       |
| EPI_ISL_413996 | hCoV-19/Switzerland/TI-SNRCI-29919486/2020                               | 2020 Feb 24      |
| EPI_ISL_414023 | hCoV-19/Switzerland/VD-SNRCI-29965615/2020                               | 2020 Mar 1       |
| EPI_ISL_486442 | hCoV-19/Switzerland/BS-ETHZ-110000/2020                                 | 2020 Apr 1       |
| EPI_ISL_476105 | hCoV-19/Switzerland/BE-ETHZ-140055/2020                                 | 2020 May 1       |
| EPI_ISL_581907 | hCoV-19/Switzerland/BL-42292327/2020                                    | 2020 Jun 1       |
| EPI_ISL_489973 | hCoV-19/Switzerland/ZH-ETHZ-180031/2020                                 | 2020 Jul 1       |
| EPI_ISL_581933 | hCoV-19/Switzerland/BS-42376604/2020                                    | 2020 Aug 1       |
| EPI_ISL_514151 | hCoV-19/Switzerland/ZH-ETHZ-270047/2020                                 | 2020 Sep 1       |
| EPI_ISL_429866 | hCoV-19/Turkey/HSGM-4236/2020                                          | 2020 Mar 16      |
| EPI_ISL_478670 | hCoV-19/Turkey/KOC-IST-B91/2020                                        | 2020 Apr 8       |
| EPI_ISL_480253 | hCoV-19/Turkey/GLAB-CoV155/2020                                        | 2020 May 1       |
| EPI_ISL_495436 | hCoV-19/Turkey/KU-026/2020                                             | 2020 Jun 3       |
| EPI_ISL_512640 | hCoV-19/Ukraine/203100361/2020                                         | 2020 Apr 24      |
| EPI_ISL_512636 | hCoV-19/Ukraine/203100357/2020                                         | 2020 May 8       |
| EPI_ISL_512597 | hCoV-19/Ukraine/203100317/2020                                         | 2020 Jun 23      |
| EPI_ISL_512616 | hCoV-19/Ukraine/203100337/2020                                         | 2020 Jul 10      |
| EPI_ISL_576148 | hCoV-19/Ukraine/Kyiv-785/2020                                          | 2020 Aug 3       |
| EPI_ISL_513310 | hCoV-19/United Kingdom/USAFSAM-S026/2020                                | 2020 Mar 18      |
| EPI_ISL_413555 | hCoV-19/Wales/PHW1/2020                                                 | 2020 Feb 27      |
| EPI_ISL_432308 | hCoV-19/Wales/PHWC-24E39/2020                                          | 2020 Mar         |
| EPI_ISL_431944 | hCoV-19/Wales/PHWC-28EF9/2020                                          | 2020 Apr 1       |
| EPI_ISL_474675 | hCoV-19/Wales/PHWC-364E7/2020                                          | 2020 May 1       |
| EPI_ISL_473239 | hCoV-19/Wales/PHWC-163064/2020                                         | 2020 Jun 1       |
| EPI_ISL_557846 | hCoV-19/Wales/ALDP-6AE860/2020                                         | 2020 Jul 1       |
| EPI_ISL_514577 | hCoV-19/Wales/PHWC-169ACA/2020                                         | 2020 Aug 1       |
| EPI_ISL_540899 | hCoV-19/Wales/PHWC-16A15B/2020                                         | 2020 Sep 1       |
| EPI_ISL_402123 | hCoV-19/Wuhan/IPBCAMS-WH-01/2019                                       | 2019 Dec 24      |
| EPI_ISL_413691 | hCoV-19/Welfang/WF0001/2020                                            | 2020 Jan         |
| EPI_ISL_403928 | hCoV-19/Wuhan/IPBCAMS-WH-05/2020                                       | 2020 Jan 1       |
| EPI_ISL_411929 | hCoV-19/South Korea/SNU01/2020                                         | 2020 Jan         |
| EPI_ISL_434560 | hCoV-19/Hong Kong/HK20/2020                                            | 2020 Jan         |
| EPI_ISL_414511 | hCoV-19/Japan/TKYE6182/2020                                            | 2020 Jan         |
| EPI_ISL_514752 | hCoV-19/Beijing/Beijing-01/2020                                        | 2020 Jan 3       |
| EPI_ISL_437623 | hCoV-19/Thailand/SI200040-NT/2020                                       | 2020 Jan 8       |
| EPI_ISL_412459 | hCoV-19/Jingzhou/HBCDC-HB-01/2020                                      | 2020 Jan 8       |
| EPI_ISL_406030 | hCoV-19/Shenzhen/HKU-SZ-002/2020                                        | 2020 Jan 10      |
| GISAID ID     | Strain                                       | Collection date* |
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| EPI_ISL_421252 | hCoV-19/Pingxiang/JX5/2020                  | 2020 Jan 11      |
| EPI_ISL_408486 | hCoV-19/Jiangxi/IVDC-JX-002/2020            | 2020 Jan 11      |
| EPI_ISL_410301 | hCoV-19/Nepal/61/2020                       | 2020 Jan 13      |
| EPI_ISL_403932 | hCoV-19/Guangdong/20SF012/2020              | 2020 Jan 14      |
| EPI_ISL_408484 | hCoV-19/Sichuan/IVDC-SC-001/2020            | 2020 Jan 15      |
| EPI_ISL_404227 | hCoV-19/Zhejiang/WZ-01/2020                 | 2020 Jan 16      |
| EPI_ISL_539333 | hCoV-19/Hunan/HN-CIDC-P2/2020               | 2020 Jan 17      |
| EPI_ISL_408480 | hCoV-19/Yunnan/IVDC-YN-003/2020             | 2020 Jan 17      |
| EPI_ISL_408481 | hCoV-19/Chongqing/IVDC-CQ-001/2020          | 2020 Jan 18      |
| EPI_ISL_407313 | hCoV-19/Hangzhou/HZCDC0001/2020             | 2020 Jan 19      |
| EPI_ISL_408482 | hCoV-19/Shandong/IVDC-SD-001/2020           | 2020 Jan 19      |
| EPI_ISL_408488 | hCoV-19/Jiangsu/IVDC-JS-001/2020           | 2020 Jan 19      |
| EPI_ISL_411060 | hCoV-19/Fujian/8/2020                       | 2020 Jan 21      |
| EPI_ISL_416389 | hCoV-19/Shanghai/SH0093/2020                | 2020 Jan 21      |
| EPI_ISL_421243 | hCoV-19/Nanchang/JX14/2020                 | 2020 Jan 21      |
| EPI_ISL_406533 | hCoV-19/Guangzhou/20SF206/2020              | 2020 Jan 22      |
| EPI_ISL_406534 | hCoV-19/Foshan/20SF207/2020                 | 2020 Jan 22      |
| EPI_ISL_418267 | hCoV-19/Vietnam/19-02S/2020                | 2020 Jan 22      |
| EPI_ISL_421237 | hCoV-19/Jiujiang/JX22/2020                 | 2020 Jan 22      |
| EPI_ISL_421244 | hCoV-19/Shangrao/JX29/2020                 | 2020 Jan 22      |
| EPI_ISL_406973 | hCoV-19/Singapore/1/2020                   | 2020 Jan 23      |
| EPI_ISL_406031 | hCoV-19/Taiwan/2/2020                      | 2020 Jan 23      |
| EPI_ISL_495459 | hCoV-19/Lishui/LS003/2020                  | 2020 Jan 24      |
| EPI_ISL_416866 | hCoV-19/Malaysia/MKAK-CL-2020-5047/2020    | 2020 Jan 24      |
| EPI_ISL_421242 | hCoV-19/Ganzhou/JX81/2020                  | 2020 Jan 25      |
| EPI_ISL_421249 | hCoV-19/Xinyu/JX122/2020                   | 2020 Jan 25      |
| EPI_ISL_455680 | hCoV-19/Changzhou/JS27/2020                | 2020 Jan 26      |
| EPI_ISL_421253 | hCoV-19/Jian/JX129/2020                    | 2020 Jan 26      |
| EPI_ISL_463889 | hCoV-19/Shaoxing/01/2020                   | 2020 Jan 27      |
| EPI_ISL_413522 | hCoV-19/India/MH-1-27-2020                 | 2020 Jan 27      |
| EPI_ISL_411902 | hCoV-19/Cambodia/0012/2020                 | 2020 Jan 27      |
| EPI_ISL_582125 | hCoV-19/United Arab Emirates/skmc-920168117/2020 | 2020 Jan 28 |
| EPI_ISL_429104 | hCoV-19/Guangzhou/GZMU0036/2020            | 2020 Feb 1       |
| EPI_ISL_455466 | hCoV-19/Yingtan/JX2480/2020                | 2020 Feb 1       |
| EPI_ISL_468724 | hCoV-19/Japan/TKYE6938/2020                | 2020 Feb 1       |
| EPI_ISL_413711 | hCoV-19/Welfang/WF0014/2020                | 2020 Feb 1       |
| EPI_ISL_507039 | hCoV-19/South Korea/CBNU-nCoV01/2020       | 2020 Feb 1       |
| EPI_ISL_437624 | hCoV-19/Thailand/SI200893-NT/2020          | 2020 Feb 1       |
| GISAID ID    | Strain                                                                 | Collection date* |
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| EPI_ISL_412030 | hCoV-19/Hong Kong/VB20026565-2/2020                                | 2020 Feb 1      |
| EPI_ISL_416336 | hCoV-19/Shanghai/SH0027/2020                                       | 2020 Feb 1      |
| EPI_ISL_407988 | hCoV-19/Singapore/3/2020                                            | 2020 Feb 1      |
| EPI_ISL_413861 | hCoV-19/Guangdong/GD2020080-P0010/2020                              | 2020 Feb 1      |
| EPI_ISL_452360 | hCoV-19/Beijing/DT-WH01/2020                                       | 2020 Feb 1      |
| EPI_ISL_429854 | hCoV-19/Lishui/LS557/2020                                          | 2020 Feb 1      |
| EPI_ISL_451316 | hCoV-19/Sichuan/SC-GA-065/2020                                     | 2020 Feb 1      |
| EPI_ISL_416047 | hCoV-19/Shangrao/ZJU-06/2020                                       | 2020 Feb 2      |
| EPI_ISL_455463 | hCoV-19/Jiujiang/JX490/2020                                       | 2020 Feb 3      |
| EPI_ISL_454919 | hCoV-19/Wuhan/HB-WH1-143/2020                                      | 2020 Feb 3      |
| EPI_ISL_489996 | hCoV-19/Saudi Arabia/477/2020                                      | 2020 Feb 3      |
| EPI_ISL_416886 | hCoV-19/Malaysia/MKAK-CL-2020-6430/2020                             | 2020 Feb 4      |
| EPI_ISL_455462 | hCoV-19/Fuzhou/JX2012/2020                                         | 2020 Feb 5      |
| EPI_ISL_463901 | hCoV-19/Shaoxing/09/2020                                            | 2020 Feb 5      |
| EPI_ISL_410218 | hCoV-19/Taiwan/NTU02/2020                                          | 2020 Feb 5      |
| EPI_ISL_455461 | hCoV-19/Yichun/JX2391/2020                                         | 2020 Feb 6      |
| EPI_ISL_435134 | hCoV-19/United Arab Emirates/L4280/2020                            | 2020 Feb 8      |
| EPI_ISL_412983 | hCoV-19/Tianmen/HBDC-HB-07/2020                                    | 2020 Feb 8      |
| EPI_ISL_416429 | hCoV-19/Vietnam/CX999/2020                                         | 2020 Feb 11     |
| EPI_ISL_412026 | hCoV-19/Hefei/2020                                                 | 2020 Feb 23     |
| EPI_ISL_457701 | hCoV-19/Oman/RESP-20-797/2020                                      | 2020 Feb 23     |
| EPI_ISL_419211 | hCoV-19/Israel/ISP_JP0320/2020                                     | 2020 Feb 23     |
| EPI_ISL_450442 | hCoV-19/Henan/HN03/2020                                            | 2020 Feb 24     |
| EPI_ISL_421246 | hCoV-19/Nanchang/JXN3T4/2020                                      | 2020 Feb 26     |
| EPI_ISL_450512 | hCoV-19/Lebanon/S5_762/2020                                       | 2020 Feb 27     |
| EPI_ISL_415641 | hCoV-19/Georgia/Tb-54/2020                                         | 2020 Feb 27     |
| EPI_ISL_468725 | hCoV-19/Japan/TKYE63442/2020                                      | 2020 Mar        |
| EPI_ISL_437604 | hCoV-19/Thailand/SI206377-NST/2020                                  | 2020 Mar 1      |
| EPI_ISL_447330 | hCoV-19/Israel/51137031/2020                                       | 2020 Mar 1      |
| EPI_ISL_418999 | hCoV-19/Singapore/18/2020                                          | 2020 Mar 1      |
| EPI_ISL_490012 | hCoV-19/Saudi Arabia/677/2020                                      | 2020 Mar 1      |
| EPI_ISL_454918 | hCoV-19/Wuhan/HB-WH1-142/2020                                      | 2020 Mar 1      |
| EPI_ISL_497997 | hCoV-19/South Korea/KCDC2096/2020                                  | 2020 Mar 1      |
| EPI_ISL_431101 | hCoV-19/India/TG-GMC-RK100/2020                                    | 2020 Mar 1      |
| EPI_ISL_596539 | hCoV-19/Palestine/60/2020                                          | 2020 Mar        |
| EPI_ISL_413592 | hCoV-19/Taiwan/NTU03/2020                                          | 2020 Mar 2      |
| EPI_ISL_459909 | hCoV-19/Harbin/HRB-26/2020                                         | 2020 Mar 2      |
| GISAID ID       | Strain                                      | Collection date* |
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| EPI_ISL_416458  | hCoV-19/Kuwait/KU12/2020                    | 2020 Mar 2       |
| EPI_ISL_457706  | hCoV-19/Oman/RESP-20-1189/2020              | 2020 Mar 2       |
| EPI_ISL_596453  | hCoV-19/Iran/GRC-43/2020                   | 2020 Mar 2       |
| EPI_ISL_450508  | hCoV-19/Lebanon/S1_758/2020                | 2020 Mar 4       |
| EPI_ISL_417444  | hCoV-19/Pakistan/GilgitI/2020               | 2020 Mar 4       |
| EPI_ISL_501181  | hCoV-19/Malaysia/0956/2020                  | 2020 Mar 4       |
| EPI_ISL_452351  | hCoV-19/Beijing/DT-travelIT04/2020         | 2020 Mar 4       |
| EPI_ISL_416479  | hCoV-19/Georgia/Tb-273/2020                | 2020 Mar 5       |
| EPI_ISL_482575  | hCoV-19/Hangzhou/HZCDC6111/2020             | 2020 Mar 5       |
| EPI_ISL_429239  | hCoV-19/Yunnan/0306-466/2020                | 2020 Mar 6       |
| EPI_ISL_497791  | hCoV-19/Hong Kong/HKU-200723-024/2020       | 2020 Mar 6       |
| EPI_ISL_416430  | hCoV-19/Vietnam/CM295/2020                 | 2020 Mar 6       |
| EPI_ISL_483547  | hCoV-19/Bahrain/BAH-06/2020                | 2020 Mar 7       |
| EPI_ISL_424352  | hCoV-19/Fuyang/FY002/2020                  | 2020 Mar 10      |
| EPI_ISL_435129  | hCoV-19/United Arab Emirates/L1758/2020    | 2020 Mar 10      |
| EPI_ISL_428671  | hCoV-19/Sri Lanka/COV53/2020               | 2020 Mar 10      |
| EPI_ISL_443187  | hCoV-19/Brunei/1/2020                      | 2020 Mar 11      |
| EPI_ISL_529961  | hCoV-19/Indonesia/JI-ITD-136N/2020         | 2020 Mar 12      |
| EPI_ISL_431118  | hCoV-19/Fujian/IM35200001T/2020             | 2020 Mar 13      |
| EPI_ISL_430002  | hCoV-19/Jordan/SS-044/2020                 | 2020 Mar 16      |
| EPI_ISL_435045  | hCoV-19/Kazakhstan/NCB-1/2020              | 2020 Mar 22      |
| EPI_ISL_417420  | hCoV-19/NanChang/JX216/2020                | 2020 Mar 23      |
| EPI_ISL_427408  | hCoV-19/Qatar/QA13/2020                    | 2020 Mar 23      |
| EPI_ISL_455688  | hCoV-19/Zhejiang/OS1/2020                  | 2020 Mar 24      |
| EPI_ISL_434555  | hCoV-19/Philippines/PGC03/2020             | 2020 Mar 26      |
| EPI_ISL_456600  | hCoV-19/Timor-Leste/TL25/2020              | 2020 Mar 30      |
| EPI_ISL_513000  | hCoV-19/Saudi Arabia/KAUST-JEDDAH757/2020  | 2020 Apr 1       |
| EPI_ISL_485396  | hCoV-19/South Korea/SS5/2020               | 2020 Apr 1       |
| EPI_ISL_507026  | hCoV-19/Saudi Arabia/KAIMRC62/2020         | 2020 Apr 1       |
| EPI_ISL_447019  | hCoV-19/Thailand/Bangkok-0078/2020         | 2020 Apr 1       |
| EPI_ISL_496555  | hCoV-19/India/MH-NCCS-NR048/2020           | 2020 Apr 28      |
| EPI_ISL_480130  | hCoV-19/Japan/PG-0470/2020                 | 2020 Apr 1       |
| EPI_ISL_462418  | hCoV-19/Singapore/300/2020                 | 2020 Apr 1       |
| EPI_ISL_447359  | hCoV-19/Israel/2089866/2020                | 2020 Apr 1       |
| EPI_ISL_501210  | hCoV-19/Malaysia/3998/2020                 | 2020 Apr 1       |
| EPI_ISL_447593  | hCoV-19/Taiwan/TSGH-34/2020                | 2020 Apr 1       |
| EPI_ISL_497818  | hCoV-19/Hong Kong/HKU-200723-051/2020      | 2020 Apr 1       |
| EPI_ISL_437192  | hCoV-19/Indonesia/JK-EIJK-04/2020         | 2020 Apr 1       |
| GISAID ID    | Strain                                                                 | Collection date* |
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| EPI_ISL_420144 | hCoV-19/Georgia/Tb-1679/2020                                           | 2020 Apr 1       |
| EPI_ISL_491121 | hCoV-19/Oman/8556/2020                                                 | 2020 Apr 2       |
| EPI_ISL_455707 | hCoV-19/Vietnam/VNHN_4189/2020                                         | 2020 Apr 2       |
| EPI_ISL_520729 | hCoV-19/United Arab Emirates/L920638060/2020                           | 2020 Apr 2       |
| EPI_ISL_582033 | hCoV-19/Iran/1600/2020                                                 | 2020 Apr 3       |
| EPI_ISL_483556 | hCoV-19/Bahrain/BAH-15/2020                                           | 2020 Apr 4       |
| EPI_ISL_450188 | hCoV-19/Jordan/SR-0336/2020                                           | 2020 Apr 6       |
| EPI_ISL_468077 | hCoV-19/Bangladesh/CHRFF-0009/2020                                     | 2020 Apr 8       |
| EPI_ISL_456606 | hCoV-19/Timor-Leste/TL07/2020                                          | 2020 Apr 11      |
| EPI_ISL_454576 | hCoV-19/Kazakhstan/16183/2020                                          | 2020 Apr 14      |
| EPI_ISL_575330 | hCoV-19/Beijing/NPRC0004/2020                                          | 2020 Apr 15      |
| EPI_ISL_444969 | hCoV-19/Guangdong/SYSU-IHV/2020                                        | 2020 Apr 16      |
| EPI_ISL_525474 | hCoV-19/Sri Lanka/CDR142/2020                                          | 2020 Apr 19      |
| EPI_ISL_512844 | hCoV-19/Myanmar/MMC_137/2020                                           | 2020 Apr 22      |
| EPI_ISL_496526 | hCoV-19/India/MH-NCCS-NR2257/2020                                      | 2020 May 21      |
| EPI_ISL_491170 | hCoV-19/Oman/C-11911/2020                                              | 2020 May 1       |
| EPI_ISL_486910 | hCoV-19/Japan/TK-Y17904/2020                                           | 2020 May         |
| EPI_ISL_477169 | hCoV-19/Georgia/Tb-7851/2020                                           | 2020 May 1       |
| EPI_ISL_513176 | hCoV-19/Saudi Arabia/KAUST-MADINAH684/2020                             | 2020 May 1       |
| EPI_ISL_528692 | hCoV-19/United Arab Emirates/2/2020                                    | 2020 May 2       |
| EPI_ISL_477128 | hCoV-19/Bangladesh/CHRFF-0015/2020                                     | 2020 May 2       |
| EPI_ISL_510549 | hCoV-19/South Korea/KCDC2211/2020                                      | 2020 May 3       |
| EPI_ISL_462412 | hCoV-19/Singapore/294/2020                                             | 2020 May 3       |
| EPI_ISL_454585 | hCoV-19/Kazakhstan/33496/2020                                          | 2020 May 4       |
| EPI_ISL_501200 | hCoV-19/Malaysia/3097/2020                                             | 2020 May 4       |
| EPI_ISL_512991 | hCoV-19/Saudi Arabia/KAUST-JEDDAH722/2020                              | 2020 May 4       |
| EPI_ISL_529066 | hCoV-19/Indonesia/JI-IITD-7061V/2020                                   | 2020 May 5       |
| EPI_ISL_498270 | hCoV-19/Hong Kong/HKU-200723-105/2020                                   | 2020 May 8       |
| EPI_ISL_548942 | hCoV-19/Pakistan/UN-UVAS-Lahore-I/2020                                 | 2020 May 11      |
| EPI_ISL_516884 | hCoV-19/Israel/CVL-n17051/2020                                         | 2020 Jun 1       |
| EPI_ISL_508202 | hCoV-19/India/UP-AR66/2020                                             | 2020 Jun 9       |
| EPI_ISL_514789 | hCoV-19/South Korea/KCDC2386/2020                                      | 2020 Jun 1       |
| EPI_ISL_477139 | hCoV-19/Bangladesh/CHRFF-0030/2020                                     | 2020 Jun 11      |
| EPI_ISL_591352 | hCoV-19/Japan/IC-0006/2020                                             | 2020 Jun         |
| EPI_ISL_528694 | hCoV-19/United Arab Emirates/306/2020                                 | 2020 Jun 2       |
| EPI_ISL_482683 | hCoV-19/Singapore/318/2020                                             | 2020 Jun 2       |
| EPI_ISL_468159 | hCoV-19/Pakistan/NIH-44905/2020                                         | 2020 Jun 2       |
| EPI_ISL_582124 | hCoV-19/Malaysia/MGI-MAEPS41/2020                                      | 2020 Jun 3       |
| GISAID ID       | Strain                                      | Collection date*               |
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| EPI_ISL_513115  | hCoV-19/Saudi Arabia/KAUST-MADINAH1111/2020| 2020 Jun 3                     |
| EPI_ISL_574613  | hCoV-19/Indonesia/JK-EJJK42/2020            | 2020 Jun 3                     |
| EPI_ISL_492014  | hCoV-19/Oman/205041214/2020                 | 2020 Jun 3                     |
| EPI_ISL_469254  | hCoV-19/Beijing/IVDC-01-06/2020             | 2020 Jun 11                    |
| EPI_ISL_596455  | hCoV-19/Iran/GRC-9695/2020                  | 2020 Jun 11                    |
| EPI_ISL_525481  | hCoV-19/Sri Lanka/CDR-SL7066/2020           | 2020 Jun 16                    |
| EPI_ISL_497770  | hCoV-19/Hong Kong/HKU-200723-003/2020       | 2020 Jun 22                    |
| EPI_ISL_487270  | hCoV-19/Bahrain/340217593/2020              | 2020 Jun 22                    |
| EPI_ISL_596558  | hCoV-19/Palestine/84/2020                   | 2020 Jun 22                    |
| EPI_ISL_582030  | hCoV-19/Iraq/ICGEB-5T/2020                 | 2020 Jun 30                    |
| EPI_ISL_498568  | hCoV-19/Singapore/670/2020                  | 2020 Jun 1                     |
| EPI_ISL_514266  | hCoV-19/Israel/CVL-n25334/2020             | 2020 Jul                      |
| EPI_ISL_528707  | hCoV-19/United Arab Emirates/581/2020       | 2020 Jul 1                     |
| EPI_ISL_522469  | hCoV-19/South Korea/KCDC2689/2020           | 2020 Jul 1                     |
| EPI_ISL_497809  | hCoV-19/Hong Kong/HKU-200723-042/2020       | 2020 Jul 1                     |
| EPI_ISL_596566  | hCoV-19/Palestine/96/2020                   | 2020 Jul                      |
| EPI_ISL_591539  | hCoV-19/Japan/IC-0090/2020                  | 2020 Jul                      |
| EPI_ISL_495023  | hCoV-19/India/GJ-GBRC285/2020              | 2020 Jul 2                     |
| EPI_ISL_574433  | hCoV-19/Indonesia/JK-NHRD-C0027475/2020    | 2020 Jul 3                     |
| EPI_ISL_514246  | hCoV-19/Bangladesh/BCSIR-NILMRC-381/2020    | 2020 Jul 21                    |
| EPI_ISL_497950  | hCoV-19/Zhejiang/SX0715/2020               | 2020 Jul 15                    |
| EPI_ISL_525486  | hCoV-19/Sri Lanka/CDR-KK57/2020            | 2020 Jul 21                    |
| EPI_ISL_498691  | hCoV-19/Liaoning/IVDC-04/2020              | 2020 Jul 22                    |
| EPI_ISL_596449  | hCoV-19/Malaysia/IMR-W1085/2020             | 2020 Jul 27                    |
| EPI_ISL_526745  | hCoV-19/South Korea/KCDC2811/2020           | 2020 Aug 1                     |
| EPI_ISL_591460  | hCoV-19/Japan/IC-0119/2020                 | 2020 Aug                      |
| EPI_ISL_512842  | hCoV-19/Singapore/806/2020                  | 2020 Aug 2                     |
| EPI_ISL_528753  | hCoV-19/Indonesia/JB-TFRIC19-R53817/2020    | 2020 Aug 4                     |
| EPI_ISL_561341  | hCoV-19/India/HR-IMT-BZ164/2020            | 2020 Aug 25                    |
| EPI_ISL_512920  | hCoV-19/Saudi Arabia/KAUST-JEDDAH462/2020   | 2020 Aug 4                     |
| EPI_ISL_536411  | hCoV-19/Hong Kong/MV2007-00689/2020         | 2020 Aug 8                     |
| EPI_ISL_534336  | hCoV-19/Taiwan/NTU30/2020                  | 2020 Aug 11                    |
| EPI_ISL_596523  | hCoV-19/Palestine/40/2020                  | 2020 Aug 15                    |
| EPI_ISL_582642  | hCoV-19/United Arab Emirates/skmc-3119719/2020 | 2020 Aug 25               |
| EPI_ISL_575322  | hCoV-19/Israel/CVL-s2049/2020              | 2020 Sep 1                     |
| EPI_ISL_576383  | hCoV-19/Indonesia/JT-UGM-47906/2020        | 2020 Sep 1                     |
| EPI_ISL_577714  | hCoV-19/India/KA-NIV-QC-1803/2020          | 2020 Sep                      |
| EPI_ISL_582659  | hCoV-19/United Arab Emirates/skmc-3358771/2020 | 2020 Sep 3                 |
| GISAID ID     | Strain                                           | Collection date* |
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| EPI_ISL_536429 | hCoV-19/Singapore/888/2020                      | 2020 Sep 3       |
| EPI_ISL_418327 | hCoV-19/Canada/ON-PHL-4181/2020                 | 2020 Jan         |
| EPI_ISL_404895 | hCoV-19/USA/WA1/2020                            | 2020 Jan 19      |
| EPI_ISL_418344 | hCoV-19/Canada/ON-PHL-2259/2020                 | 2020 Feb         |
| EPI_ISL_411954 | hCoV-19/USA/CA-CDC-7/2020                       | 2020 Feb 6       |
| EPI_ISL_412972 | hCoV-19/Mexico/CMX-InDRE-01/2020                 | 2020 Feb 27      |
| EPI_ISL_417139 | hCoV-19/USA/WA-S86/2020                         | 2020 Mar 1       |
| EPI_ISL_418340 | hCoV-19/Canada/ON-PHL-1083/2020                 | 2020 Mar         |
| EPI_ISL_509712 | hCoV-19/Belize/CDC-6846/2020                    | 2020 Mar 1       |
| EPI_ISL_523811 | hCoV-19/Dominican Republic/ICGEB_UNIBE051/2020  | 2020 Mar 1       |
| EPI_ISL_424667 | hCoV-19/Mexico/CMX-InDRE_03/2020                | 2020 Mar 4       |
| EPI_ISL_415152 | hCoV-19/Panama/328677/2020                      | 2020 Mar 6       |
| EPI_ISL_491438 | hCoV-19/Costa Rica/INC-0026/2020                | 2020 Mar 6       |
| EPI_ISL_450793 | hCoV-19/Jamaica/JM-CDC-0869/2020                | 2020 Mar 9       |
| EPI_ISL_509695 | hCoV-19/Guatemala/CDC-1227/2020                 | 2020 Mar 13      |
| EPI_ISL_513312 | hCoV-19/Cuba/USAFSAM-S030/2020                  | 2020 Mar 19      |
| EPI_ISL_434541 | hCoV-19/Puerto Rico/CDC-S1/2020                 | 2020 Mar 23      |
| EPI_ISL_430130 | hCoV-19/USA/WA-S276/2020                        | 2020 Apr 1       |
| EPI_ISL_467423 | hCoV-19/Canada/BC_13704688/2020                 | 2020 Apr         |
| EPI_ISL_493335 | hCoV-19/Mexico/GUA-InDRE-20/2020                | 2020 Apr 2       |
| EPI_ISL_509714 | hCoV-19/Belize/CDC-6852/2020                    | 2020 Apr 9       |
| EPI_ISL_462681 | hCoV-19/USA/MI-MDHHS-SC20599/2020               | 2020 May 1       |
| EPI_ISL_477039 | hCoV-19/Canada/BC_00740314/2020                 | 2020 May         |
| EPI_ISL_525467 | hCoV-19/Dominican Republic/ICGEB_UNIBE022/2020  | 2020 May 5       |
| EPI_ISL_516622 | hCoV-19/Mexico/SON-InDRE_35/2020                | 2020 May 15      |
| EPI_ISL_477309 | hCoV-19/USA/MN-MDH-1220/2020                    | 2020 Jun 1       |
| EPI_ISL_548900 | hCoV-19/Canada/ON-PHL-20-01296/2020             | 2020 Jun         |
| EPI_ISL_512659 | hCoV-19/Costa Rica/INC-0053/2020                | 2020 Jun 8       |
| EPI_ISL_516618 | hCoV-19/Mexico/COA-InDRE-36/2020                | 2020 Jun 13      |
| EPI_ISL_501083 | hCoV-19/USA/OR-UW-13394/2020                    | 2020 Jul 1       |
| EPI_ISL_527750 | hCoV-19/Costa Rica/INC-0082/2020                | 2020 Jul 2       |
| EPI_ISL_582494 | hCoV-19/Canada/MB-NML-1176/2020                 | 2020 Jul 3       |
| EPI_ISL_516611 | hCoV-19/Mexico/BCN-InDRE-51/2020                | 2020 Jul 5       |
| EPI_ISL_517928 | hCoV-19/USA/FL-BPHL-1038/2020                   | 2020 Aug 1       |
| EPI_ISL_522880 | hCoV-19/Mexico/CMX-INMEXGEN-09/2020             | 2020 Aug 1       |
| EPI_ISL_582478 | hCoV-19/Canada/MB-NML-1152/2020                 | 2020 Aug         |
| EPI_ISL_536661 | hCoV-19/USA/NY-UW-1289/2020                     | 2020 Sep 1       |
| EPI_ISL_408976 | hCoV-19/Australia/NSW02/2020                    | 2020 Jan 22      |
| GISAID ID   | Strain                          | Collection date* |
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| EPI_ISL_410717 | hCoV-19/Australia/QLD03/2020   | 2020 Feb 5      |
| EPI_ISL_413490 | hCoV-19/New Zealand/20VR0174/2020 | 2020 Feb 27     |
| EPI_ISL_498500 | hCoV-19/Australia/ACT0033/2020 | 2020 Mar        |
| EPI_ISL_416519 | hCoV-19/New Zealand/20VR0189/2020 | 2020 Mar 2      |
| EPI_ISL_445000 | hCoV-19/Guam/GU_NHG_03/2020 | 2020 Mar 20     |
| EPI_ISL_498518 | hCoV-19/Australia/ACT0051/2020 | 2020 Apr        |
| EPI_ISL_579229 | hCoV-19/New Zealand/20VR2101/2020 | 2020 Apr 1      |
| EPI_ISL_456476 | hCoV-19/Australia/VIC1511/2020 | 2020 May 1      |
| EPI_ISL_579426 | hCoV-19/New Zealand/20VR3128/2020 | 2020 May 1      |
| EPI_ISL_498543 | hCoV-19/Australia/ACT0084/2020 | 2020 Jun        |
| EPI_ISL_548104 | hCoV-19/New Zealand/20CV0063/2020 | 2020 Jun 19     |
| EPI_ISL_498544 | hCoV-19/Australia/ACT0086/2020 | 2020 Jul        |
| EPI_ISL_548139 | hCoV-19/New Zealand/20VR3804/2020 | 2020 Jul 10     |
| EPI_ISL_563193 | hCoV-19/Australia/VIC11004/2020 | 2020 Aug 1      |
| EPI_ISL_547977 | hCoV-19/New Zealand/20CV0068/2020 | 2020 Aug 12     |
| EPI_ISL_563288 | hCoV-19/Australia/VIC11186/2020 | 2020 Sep 1      |
| EPI_ISL_548067 | hCoV-19/New Zealand/20CV0220/2020 | 2020 Sep 1      |
| EPI_ISL_412964 | hCoV-19/Brazil/SP-01/2020 | 2020 Feb 25     |
| EPI_ISL_414014 | hCoV-19/Brazil/SP-03/2020 | 2020 Mar 2      |
| EPI_ISL_414577 | hCoV-19/Chile/Talca-1/2020 | 2020 Mar 2      |
| EPI_ISL_482468 | hCoV-19/Peru/LIM-01-2/2020 | 2020 Mar 5      |
| EPI_ISL_418262 | hCoV-19/Colombia/DC-INS-78390/2020 | 2020 Mar 6      |
| EPI_ISL_420600 | hCoV-19/Argentina/C121/2020 | 2020 Mar 7      |
| EPI_ISL_547450 | hCoV-19/Curaçao/CW-RIVM-10092/2020 | 2020 Mar 10     |
| EPI_ISL_547445 | hCoV-19/Aruba/AW-RIVM-10101/2020 | 2020 Mar 13     |
| EPI_ISL_444493 | hCoV-19/Uruguay/Mdeo-1/2020 | 2020 Mar 13     |
| EPI_ISL_477014 | hCoV-19/Ecuador/USFQ-004/2020 | 2020 Mar 30     |
| EPI_ISL_476373 | hCoV-19/Brazil/SP-L22-CD474/2020 | 2020 Apr 1      |
| EPI_ISL_498163 | hCoV-19/Colombia/COR-INS-95319/2020 | 2020 Apr 1     |
| EPI_ISL_536523 | hCoV-19/Peru/LAM-INS-125/2020 | 2020 Apr 1      |
| EPI_ISL_445349 | hCoV-19/Chile/Santiago_52/2020 | 2020 Apr 1      |
| EPI_ISL_430803 | hCoV-19/Argentina/PAIS-A0012/2020 | 2020 Apr 1      |
| EPI_ISL_476702 | hCoV-19/Venezuela/VEN-89312/2020 | 2020 Apr 2      |
| EPI_ISL_457965 | hCoV-19/Uruguay/UY-NYUMC869/2020 | 2020 Apr 3      |
| EPI_ISL_491933 | hCoV-19/Ecuador/USFQ-128/2020 | 2020 Apr 7      |
| EPI_ISL_468758 | hCoV-19/Chile/Copiapo-00063/2020 | 2020 May 1      |
| EPI_ISL_517613 | hCoV-19/Suriname/SR-02/2020 | 2020 May        |
| EPI_ISL_524786 | hCoV-19/Brazil/PA-IEC-165302/2020 | 2020 May 1      |
| GISAID ID   | Strain                                      | Collection date* |
|------------|---------------------------------------------|------------------|
| EPI_ISL_491941 | hCoV-19/Ecuador/USFQ-133/2020               | 2020 May 2       |
| EPI_ISL_536502 | hCoV-19/Peru/CAL-INS-103/2020              | 2020 May 2       |
| EPI_ISL_526933 | hCoV-19/Colombia/AMA-INS-105161/2020      | 2020 May 3       |
| EPI_ISL_476561 | hCoV-19/Argentina/Heritas_HG006/2020      | 2020 May 7       |
| EPI_ISL_491951 | hCoV-19/Ecuador/52438/2020                | 2020 Jun 1       |
| EPI_ISL_517620 | hCoV-19/Suriname/SR-09/2020               | 2020 Jun         |
| EPI_ISL_547571 | hCoV-19/Brazil/SP-341/2020                | 2020 Jun 1       |
| EPI_ISL_591528 | hCoV-19/Chile/Santiago-ADC1858/2020      | 2020 Jun 8       |
| EPI_ISL_529067 | hCoV-19/Peru/LAM-UPCH-0006/2020           | 2020 Jun 8       |
| EPI_ISL_547919 | hCoV-19/Peru/UN-INS-003/2020              | 2020 Jul 1       |
| EPI_ISL_486842 | hCoV-19/Ecuador/USFQ-105/2020             | 2020 Jul 1       |
| EPI_ISL_529139 | hCoV-19/Brazil/RJ-DCVN2/2020              | 2020 Jul 20      |
| EPI_ISL_517657 | hCoV-19/Suriname/SR-46/2020              | 2020 Jul 7       |
| EPI_ISL_526967 | hCoV-19/Colombia/DC-INS-289/2020         | 2020 Jul 7       |
| EPI_ISL_591527 | hCoV-19/Chile/Santiago-LAE7918/2020      | 2020 Jul 28      |
| EPI_ISL_527809 | hCoV-19/Ecuador/USFQ-193/2020            | 2020 Aug 4       |
| EPI_ISL_523959 | hCoV-19/Brazil/SP-163/2020              | 2020 Aug 15      |
| EPI_ISL_526971 | hCoV-19/Colombia/DC-INS-197/2020        | 2020 Aug 18      |
| EPI_ISL_591531 | hCoV-19/Chile/Santiago-IN233883987/2020 | 2020 Aug 24      |
| EPI_ISL_568518 | hCoV-19/Peru/LIM-UPCH-0122/2020          | 2020 Aug 27      |
| EPI_ISL_574431 | hCoV-19/Ecuador/USFQ-253/2020           | 2020 Sep 14      |
| EPI_ISL_417186 | hCoV-19/South Africa/R03006/2020        | 2020 Mar 7       |

*Exact dates were not available for some sequences.
Appendix Figure 1. Reverse transcription PCR results of 2 undocumented migrants with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), Yunnan Province, China, 2020. Cycle threshold (Ct) values for patient 1 (A) and patient 2 (B). Colored amplification curves indicate the results of the sequences: blue, ORF1ab gene; green, N-gene; and orange, internal control. The Ct value corresponds to the number of cycles at the intersection of the amplification curve and the threshold line. Patient 1 had no Ct value for the ORF1ab gene and a value of 37.41 for N-gene; patient 2 had Ct values of 31.23 for the ORF1ab gene and 30.11 for N-gene. NA, not available; RFU, relative fluorescence unit.
Appendix Figure 2. Comparison of severe acute respiratory syndrome coronavirus 2 sequences from earlier outbreaks in China and undocumented migrants, Yunnan Province, China, 2020. Wuhan-Hu-1 (GenBank accession no. MN908947.3) serves as reference sequence. Red circles indicate 9 representative mutations of B.1.36 clade.
Appendix Figure 3. Global phylogenetic tree of severe acute respiratory syndrome, 2020. A) Phylogenetic tree of 592 sequences from GISAID (https://www.gisaid.org), including reference genome Wuhan-Hu-1 and 2 sequences from undocumented migrants in Ruili, Yunnan Province, China. Colors indicate different evolutionary lineages: yellow, A; orange, B; blue, B.1; brown, B.1.1; red, B.1.36; gray, B.1.160; cyan, B.2; pink, B.3; green, B.4; purple, B.6; and magenta, B.10. Black arrow indicates sequences from Ruili. B) Enlarged schematic of B.1.36 and B.1.160 lineages. Yellow bar indicates sequences from undocumented migrants in Ruili.