



Supplementary Information for
The origin and early spread of SARS-CoV-2 in Europe.

Sarah A. Nadeau^{1,2}, Timothy G. Vaughan^{1,2}, Jérémie Scire^{1,2}, Jana S. Huisman^{1,2,3}, Tanja Stadler^{1,2*}

* Corresponding Author
Tanja Stadler
Email: tanja.stadler@bsse.ethz.ch

This PDF file includes:

Figures S1 to S9
Tables S1 to S6

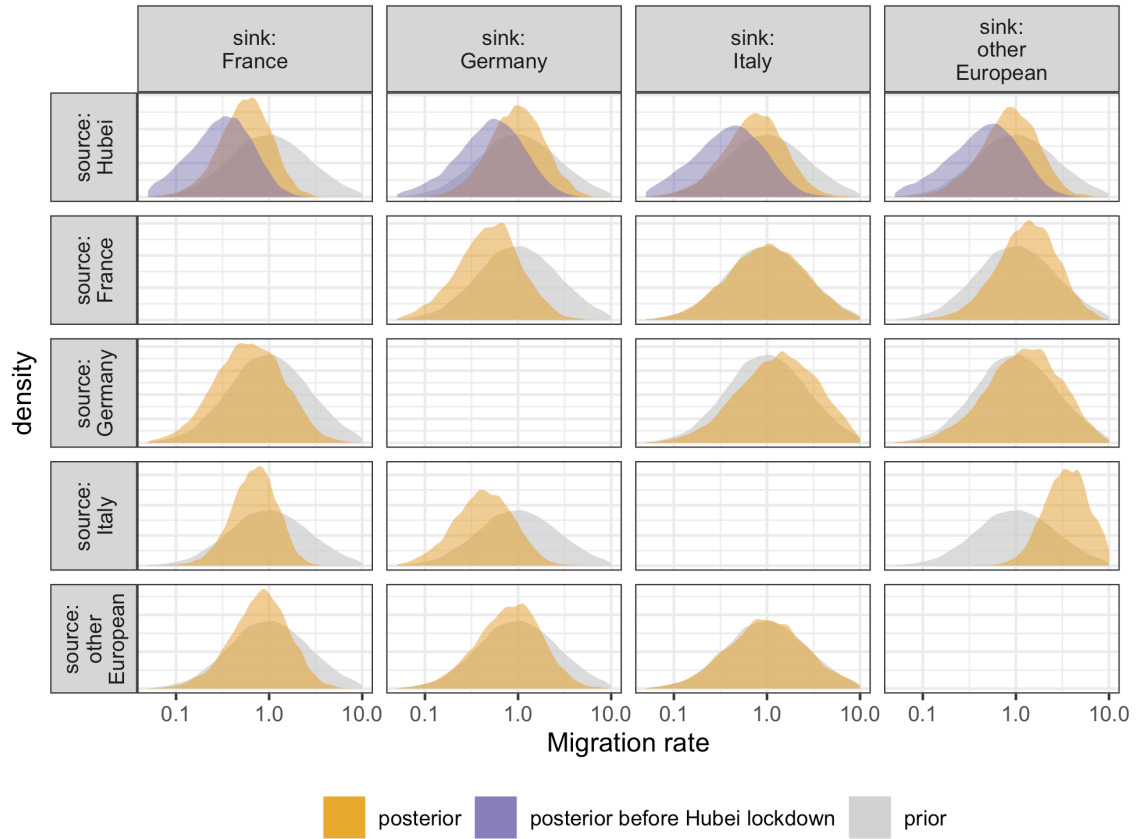


Fig. S1. Posterior distributions for migration rates (yellow for rates out of Hubei before 23 Jan. 2020 and rates between non-Hubei demes, purple for rates out of Hubei after 23 Jan. 2020) compared to the prior distribution (grey).

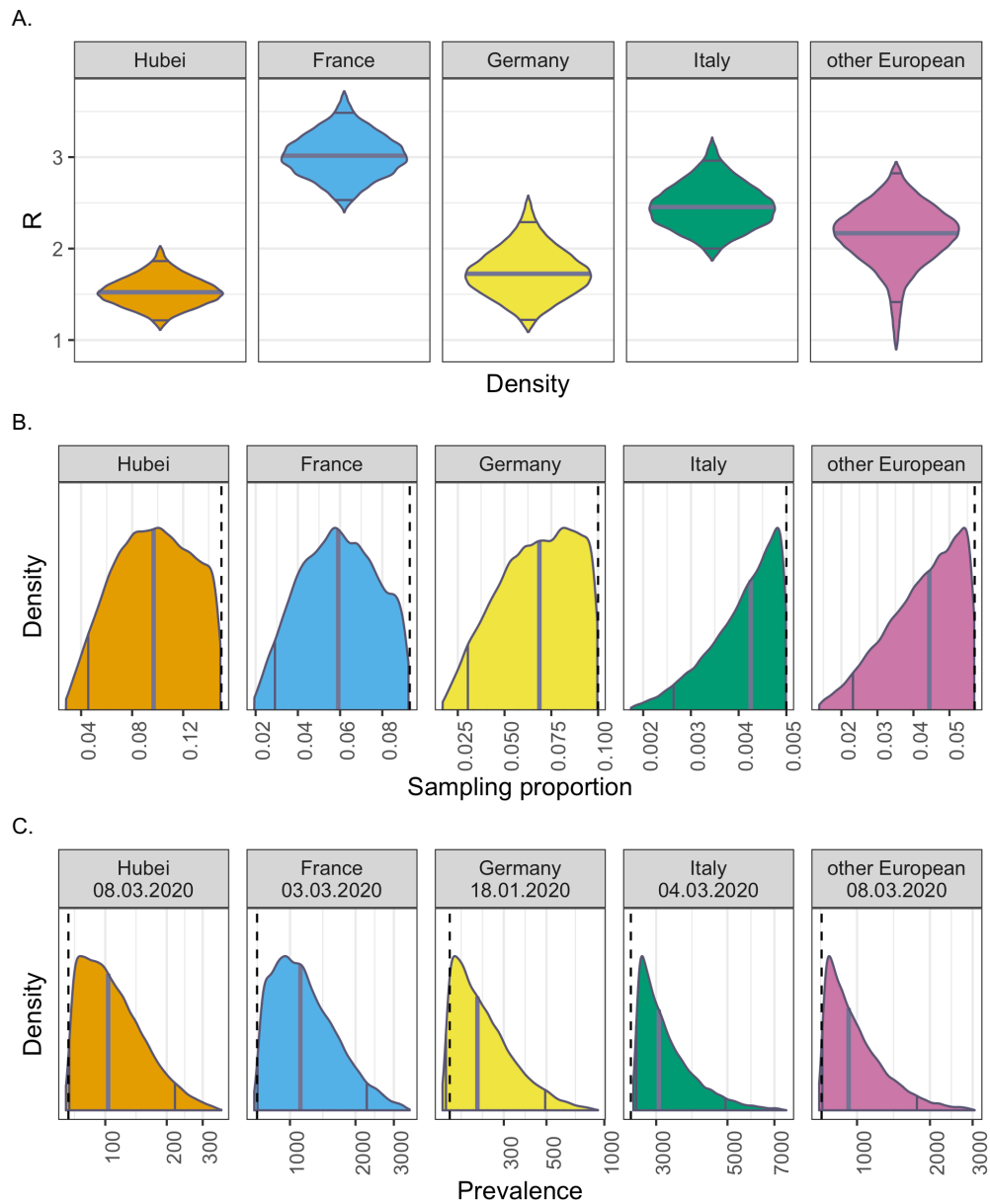


Fig. S2. Posterior distributions for inferred parameters in the main analysis. A) reproductive number, B) sampling proportion, and C) the number of no-longer infectious cases on the date of the last analyzed sequence (dates in facet titles) for each region. The dashed lines in B) show the upper bound of the uniform sampling prior for each region and in C) the number of confirmed cases on the date of the last analyzed sample. The solid grey lines show the 95% highest posterior density interval and the median for each posterior.

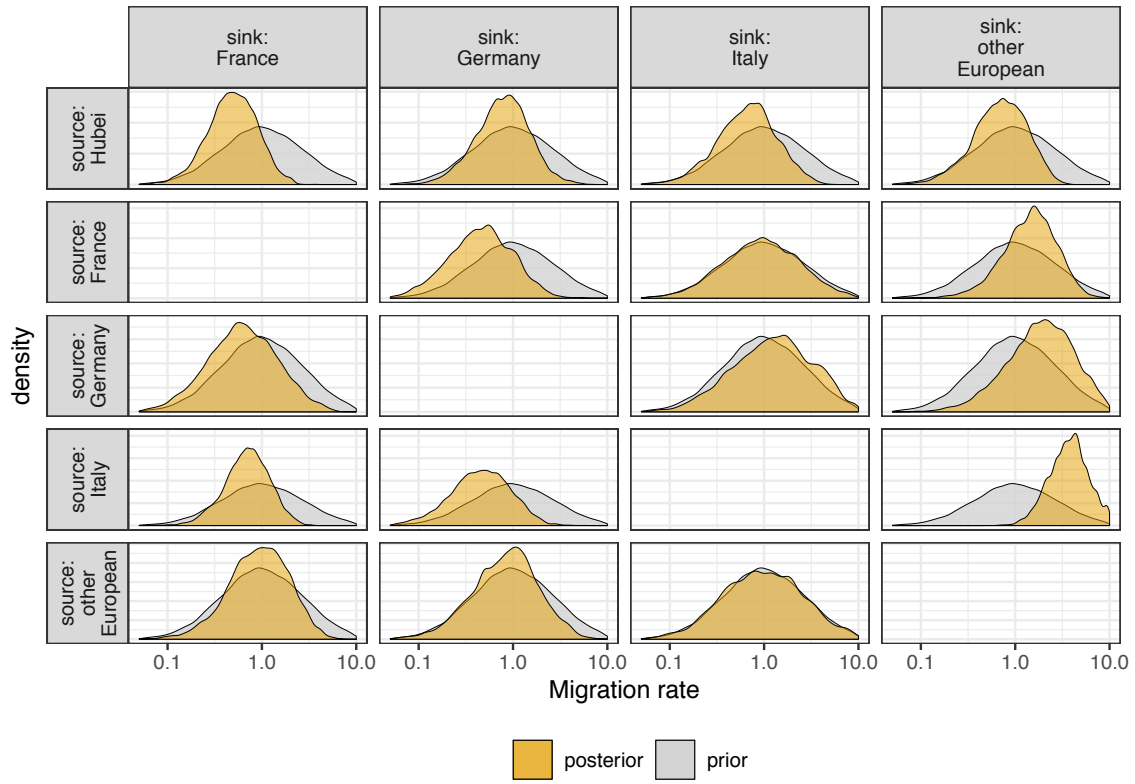


Fig. S3. Posterior distributions (yellow) for migration rates compared to the prior distribution (grey) in the analysis with down-sampling based on death data from 28 Mar. 2020.

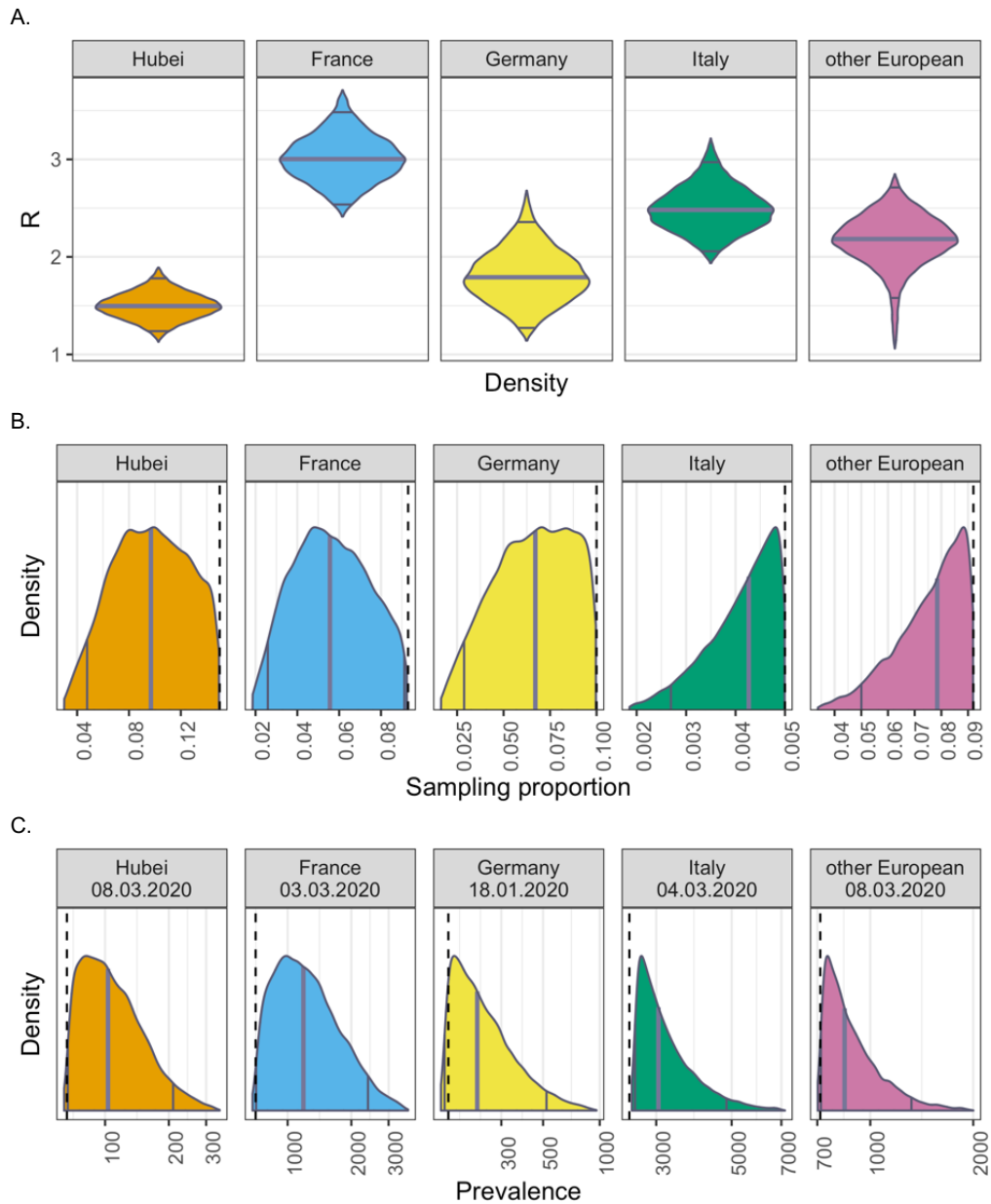


Fig. S4. Posterior distributions for inferred parameters in the analysis with down-sampling based on death data from 28 Mar. 2020. A) reproductive number, B) sampling proportion, and C) the number of no-longer infectious cases on the date of the last analyzed sequence (dates in facet titles) for each region. The dashed lines in B) show the upper bound of the uniform sampling proportion prior for each region and in C) the number of confirmed cases on the date of the last analyzed sample. The solid grey lines show the 95% highest posterior density interval and the median for each posterior.

Maximum clade credibility tree

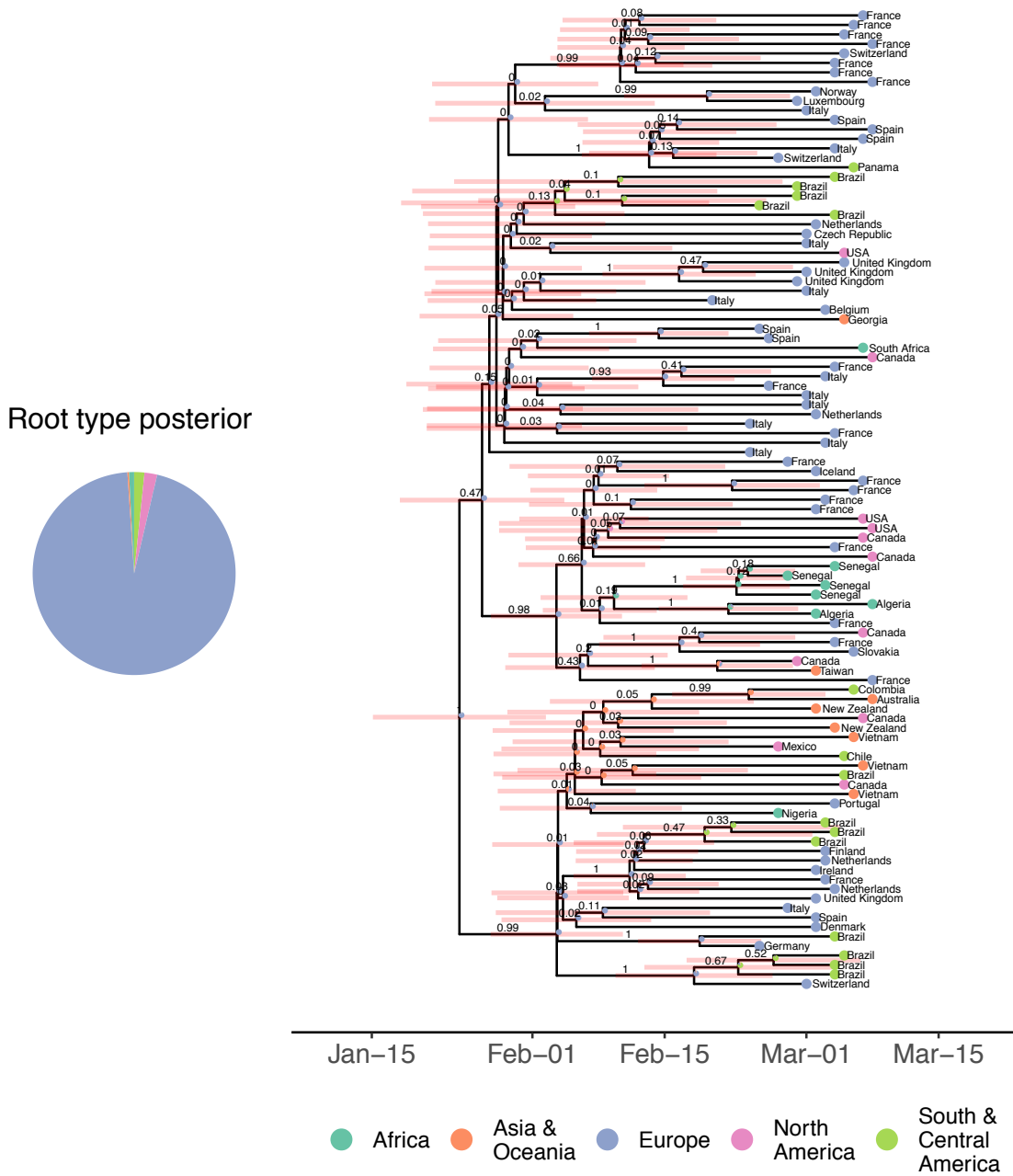


Fig. S5. Ancestral location inference results for the sensitivity analysis with sequences from the A2a clade from all global regions. The pie chart on the left shows the posterior probabilities for the location of the most recent common ancestor of the analyzed sequences. The tree on the right is the maximum clade credibility tree. The values above the branches are posterior clade probabilities. The pie charts at nodes show the posterior probability of the node being in each deme. The deme for each tip is the region in which the sequence was collected (irrespective of travel history). Tips are annotated with the country in which the sequence was collected.

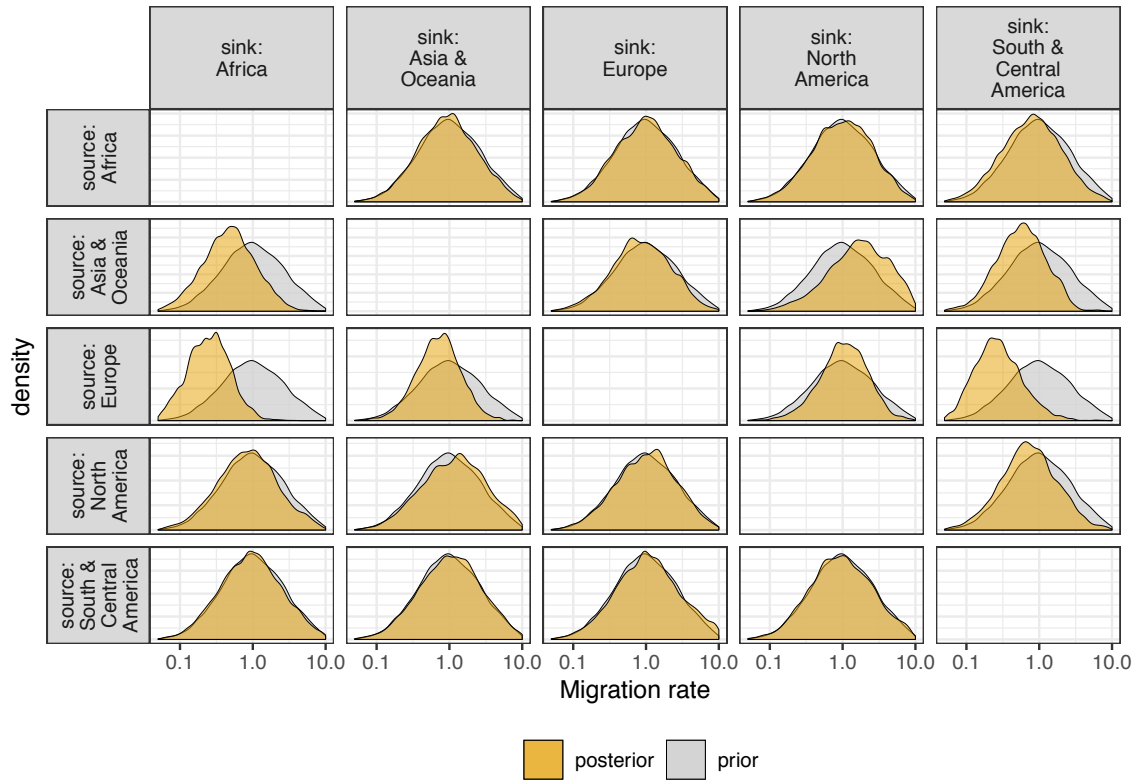


Fig. S6. Posterior distributions (yellow) for migration rates compared to the prior distribution (grey) for the analysis with sequences from the A2a clade from all global regions.

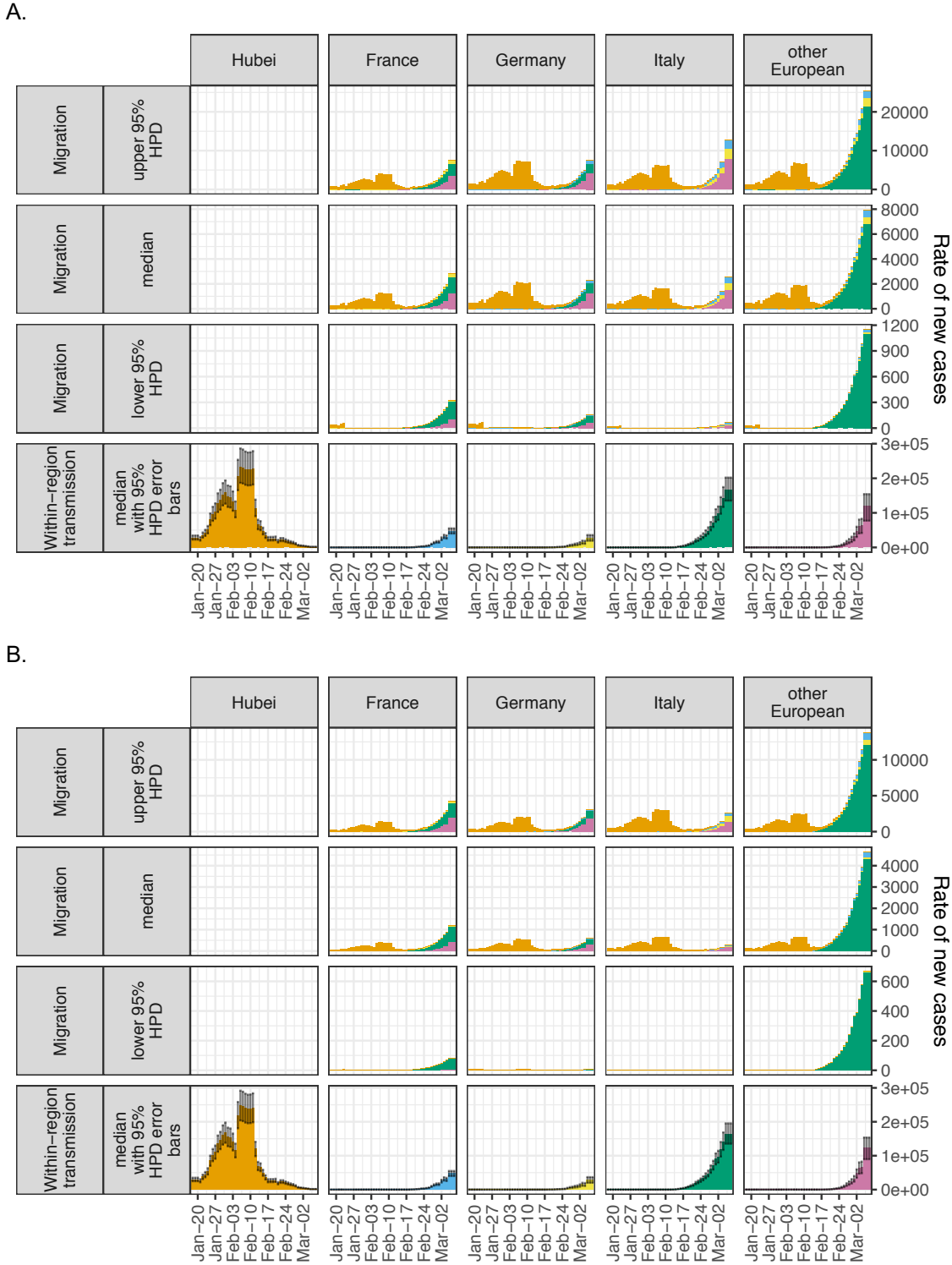


Fig. S7. Estimated rate of new cases from migration compared with the rate of new cases from within-region transmission A) using the migration rate prior as in the main analysis and B) using a lower migration rate prior: $\text{Lognormal}(-2.29, 1.25)$. Under the lower prior, median time until travel is 10 years and the 95% IQR is 1.3 days – 78 years. For each day, we multiplied the (smoothed) number of newly confirmed cases in each source region by the posterior sample of migration rates from source to sink. The upper and lower bounds of the 95% HPD interval and the median of these

rates are show in the top three rows. We also multiplied the (smoothed) number of newly confirmed cases in each sink region by the posterior sample of transmission rates for the region. The median of these rates is shown in the bottom row, with error bars showing the upper and lower bounds of the 95% HPD interval. Dates are lagged 5 days to account for a 5-day delay between infection and migration or onward transmission and daily case counts were smoothed by taking a rolling 7-day average. Case data comes from the Johns Hopkins Center for Systems Science and Engineering (<https://github.com/CSSEGISandData/COVID-19>). IQR = inter-quartile range; HPD = highest posterior density.

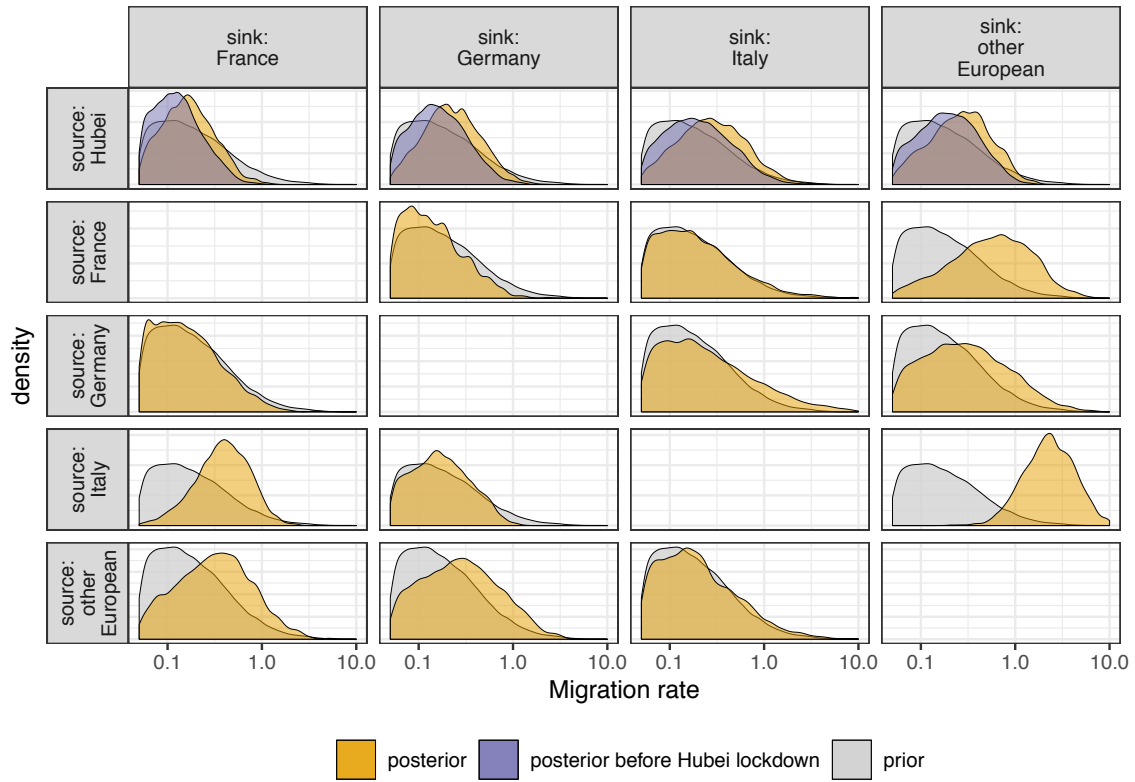


Figure S8. Posterior distributions (yellow for rates out of Hubei before 23 Jan. 2020 and rates between non-Hubei demes, purple for rates out of Hubei after 23 Jan. 2020) compared to the prior distribution (grey) using the same sequences as in the main analysis with a lower migration rate prior: $\text{Lognormal}(-2.29, 1.25)$.

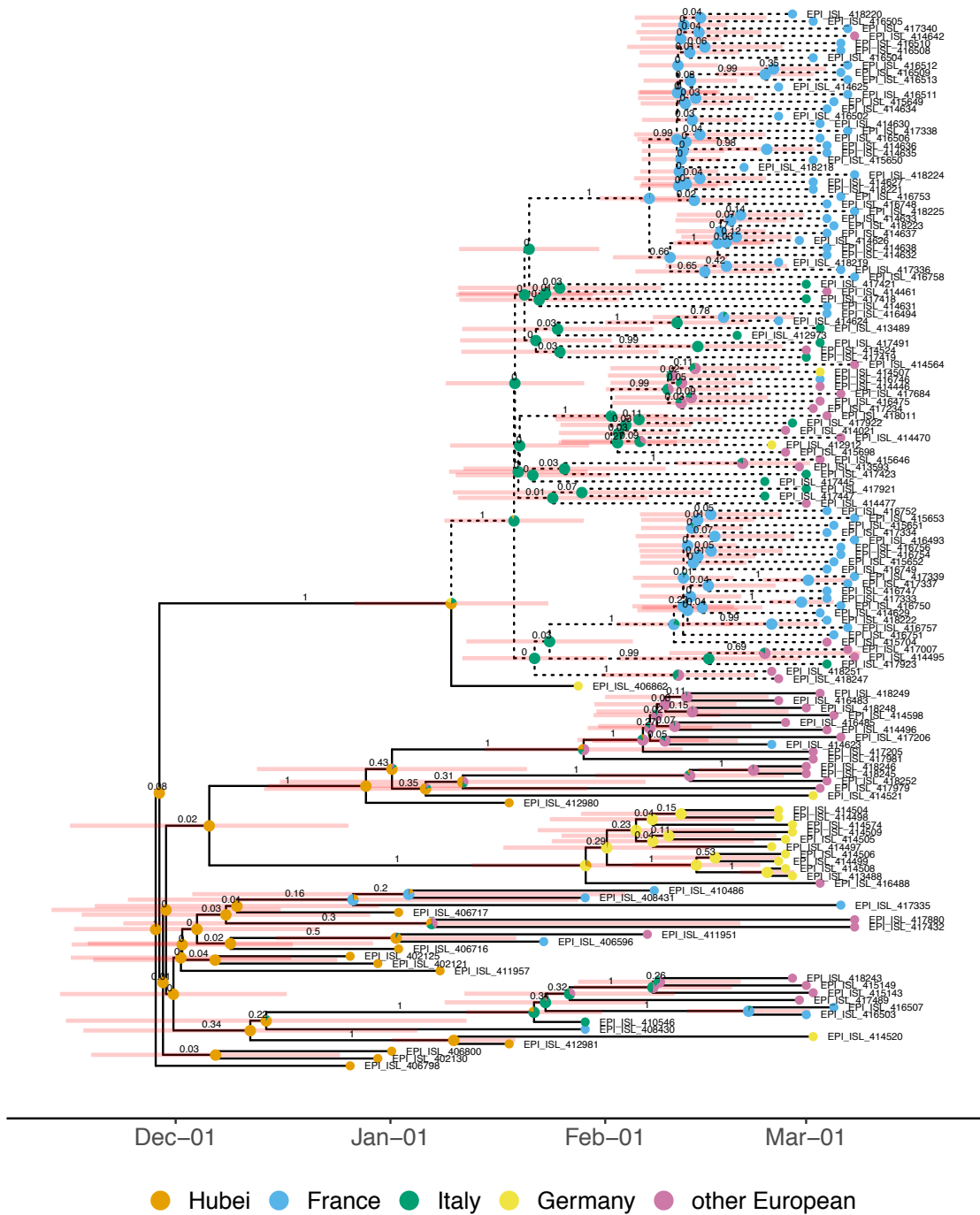


Fig S9. Maximum clade credibility tree using the same sequences as in the main analysis with a lower migration rate prior: Lognormal(-2.29, 1.25). The clade of A2a sequences analyzed is highlighted with dashed branches. The values above the branches are the posterior clade probabilities and the pale red bars show the 95% highest posterior density interval for node ages. The pie charts at internal nodes show the posterior probability that the ancestor was located in each deme (note that we assumed the root of the tree was in Hubei with probability 1). The deme for each tip is the deme in which the sequence was collected, irrespective of travel history. Tips are annotated with GISAID accession identifiers.

Table S1. Sequence information for the “other European” deme in the main analysis. Case and death data are from the Johns Hopkins Center for Systems Science and Engineering (<https://github.com/CSSEGISandData/COVID-19>). The number of sequences collected refers to the number of genome sequences available on GISAID (<https://www.gisaid.org/>). No. = number, Seqs. = sequences.

Country	No. seqs. included	No. confirmed deaths as of 8 Mar. 2020	No. confirmed cases as of 8 Mar. 2020	No. seqs. before down-sampling
Spain	18	17	673	26
Netherlands	4	3	265	107
United Kingdom	4	3	273	172
Switzerland	3	2	337	49
Belgium	1	0	200	46
Czech Republic	1	0	31	1
Denmark	1	0	35	9
Finland	1	0	23	13
Iceland	1	0	50	54
Ireland	1	0	19	9
Luxembourg	1	0	3	1
Norway	1	0	176	8
Poland	1	0	11	1
Portugal	1	0	30	19
Slovakia	1	0	3	4
Sweden	1	0	203	1

Table S2. Sequence information for the “other European” deme in the sensitivity analysis with down-sampling based on death data from 28 Mar. 2020. Case and death data are from the Johns Hopkins Center for Systems Science and Engineering (<https://github.com/CSSEGISandData/COVID-19>). The number of sequences collected refers to the number of genome sequences available on GISAID (<https://www.gisaid.org/>). No. = number, Seqs. = sequences.

Country	No. seqs. included	No. confirmed deaths as of 28 Mar. 2020	No. confirmed cases as of 28 Mar. 2020	No. seqs. before down-sampling
Spain	26	5982	73235	26
United Kingdom	11	1021	17312	172
Netherlands	7	640	9819	107
Belgium	5	353	9134	46
Switzerland	4	264	14076	49
Denmark	2	65	2366	9
Portugal	2	100	5170	19
Czech Republic	1	11	2631	1
Finland	1	9	1167	13
Iceland	1	2	963	54
Ireland	1	36	2415	9
Luxembourg	1	18	1831	1
Norway	1	23	4015	8
Poland	1	18	1638	1
Slovakia	1	0	292	4
Sweden	1	105	3447	1

Table S3. Sequence information for the sensitivity analysis with sequences from the A2a clade from all global regions. Location is the location of sample collection, as recorded in the Nextstrain metadata (previously available at <https://github.com/nextstrain/ncov>, as of publication the metadata is available for download from GISAID, <https://www.gisaid.org/>). Date is the date of sample collection, as given on GISAID. No. = number; Seq. = sequence.

Deme	No. seqs.	Locations	First seq. date	Last seq. date
Africa	8	Nigeria (1), South Africa (1), Senegal (4), Algeria (2)	27.02.2020	08.03.2020
Asia & Oceania	8	Taiwan (1), Vietnam (3), Georgia (1), New Zealand (2), Australia (1)	02.03.2020	08.03.2020
Europe	60	Belgium (1), Czech Republic (1), Denmark (1), Finland (1), France (20), Germany (1), Iceland (1), Ireland (1), Italy (12), Luxembourg (1), Netherlands (4), Norway (1), Portugal (1), Slovakia (1), Spain (6), Switzerland (3), United Kingdom (4)	20.02.2020	08.03.2020
North America	11	Mexico (1), USA (3), Canada (7)	27.02.2020	08.03.2020
South & Central America	16	Brazil (13), Chile (1), Panama (1), Colombia (1)	25.02.2020	06.03.2020

Table S4. Sequence information for the European deme in the sensitivity analysis with sequences from the A2a clade from all global regions. Confirmed case and death data are from the Johns Hopkins Center for Systems Science and Engineering (<https://github.com/CSSEGISandData/COVID-19>). The number of sequences collected refers to the number of genome sequences available on GISAID (<https://www.gisaid.org/>). No. = number, Seqs. = sequences.

Country	No. seqs. included	No. confirmed deaths as of 8 Mar. 2020	No. confirmed cases as of 8 Mar. 2020	No. A2a seqs. before down-sampling
Belgium	1	0	200	40
Czech Republic	1	0	31	1
Denmark	1	0	35	9
Finland	1	0	23	8
France	20	19	1126	58
Germany	1	0	1040	2
Iceland	1	0	50	53
Ireland	1	0	19	8
Italy	12	366	7375	12
Luxembourg	1	0	3	1
Netherlands	4	3	265	64
Norway	1	0	176	1
Portugal	1	0	30	19
Slovakia	1	0	3	3
Spain	6	17	673	6
Switzerland	3	2	337	48
United Kingdom	4	3	273	101

Table S5. Median inferred number of introductions from each deme to each other deme amongst the analyzed cases in the analysis with sequences from the A2a clade from all global regions. Values in brackets are the upper and lower bound of the 95% highest posterior density interval.

Source / sink	Africa	Asia & Oceania	Europe	North America	South & Central America
Africa	-	0: [0, 1]	0: [0, 1]	0: [0, 1]	0: [0, 1]
Asia & Oceania	1: [0, 3]	-	0: [0, 2]	3: [0, 8]	3: [0, 6]
Europe	3: [0, 5]	5: [0, 9]	-	8: [2, 14]	8: [3, 13]
North America	0: [0, 2]	0: [0, 2]	0: [0, 1]	-	0: [0, 3]
South & Central America	0: [0, 1]	0: [0, 1]	0: [0, 1]	0: [0, 1]	-

Table S6. GISAID acknowledgements. We gratefully acknowledge the following originating laboratories responsible for obtaining the specimens, as well as the submitting laboratories where the genome data were generated and shared via GISAID, on which this research is based. All submitters of data may be contacted directly via www.gisaid.org. Analysis codes are as follows: a = the main analysis, b = the analysis with down-sampling based on death data from 28 Mar. 2020, c = the analysis with sequences from the A2a clade from all global regions.

Nextstrain sample name	GISAID Accession ID	Date	Originating lab	Submitting lab	Analyses used in
Algeria/G0638_2264/2020	EPI_ISL_418241	02.03.2020	NIC Viral Respiratory Unit - Institut Pasteur of Algeria	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	c
Algeria/G0640_2265/2020	EPI_ISL_418242	08.03.2020	NIC Viral Respiratory Unit - Institut Pasteur of Algeria	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	c
Australia/NSW27/2020	EPI_ISL_417390	08.03.2020	Centre for Infectious Diseases and Microbiology Public Health	NSW Health Pathology - Institute of Clinical Pathology and Medical Research; Westmead Hospital; University of Sydney	c
Belgium/DBA-03032/2020	EPI_ISL_416475	03.03.2020	KU Leuven, Clinical and Epidemiological Virology	KU Leuven, Clinical and Epidemiological Virology	a
Belgium/GMH-03022/2020	EPI_ISL_416468	02.03.2020	KU Leuven, Clinical and Epidemiological Virology	KU Leuven, Clinical and Epidemiological Virology	b
Belgium/KA-03042/2020	EPI_ISL_417424	04.03.2020	KU Leuven, Clinical and Epidemiological Virology	KU Leuven, Clinical and Epidemiological Virology	b
Belgium/NKR-030645/2020	EPI_ISL_418795	06.03.2020	KU Leuven, Clinical and Epidemiological Virology	KU Leuven, Clinical and Epidemiological Virology	b
Belgium/SN-03031/2020	EPI_ISL_416469	03.03.2020	KU Leuven, Clinical and Epidemiological Virology	KU Leuven, Clinical and Epidemiological Virology	c
Belgium/ULG-3665/2020	EPI_ISL_417009	07.03.2020	Department of Clinical Microbiology	GIGA Medical Genomics	b
Belgium/ULG-3843/2020	EPI_ISL_417012	08.03.2020	Department of Clinical Microbiology	GIGA Medical Genomics	b
Brazil/BA-312/2020	EPI_ISL_415105	04.03.2020	Laboratorio Central de Saude Publica Professor Goncalo Moniz LACEN/BA	Instituto Oswaldo Cruz FIOCRUZ - Laboratory of Respiratory Viruses and Measles (LVRS)	c
Brazil/RJ-314/2020	EPI_ISL_414045	04.03.2020	LACEN RJ - Laboratorio Central de Saude Publica Noel Nutels	Instituto Oswaldo Cruz FIOCRUZ - Laboratory of Respiratory Viruses and Measles (LVRS)	c
Brazil/SPBR-01/2020	EPI_ISL_412964	25.02.2020	Hospital Israelita Albert Einstein	Instituto Adolfo Lutz Interdisciplinary Procedures Center Strategic Laboratory	c

Brazil/SPBR-03/2020	EPI_ISL_414014	02.03.2020	Hospital Israelita Albert Einstein	Instituto Adolfo Lutz, Interdisciplinary Procedures Center, Strategic Laboratory	c
Brazil/SPBR-04/2020	EPI_ISL_414017	04.03.2020	Hospital Sao Joaquim Beneficencia Portuguesa	Instituto Adolfo Lutz, Interdisciplinary Procedures Center, Strategic Laboratory	c
Brazil/SPBR-05/2020	EPI_ISL_414016	29.02.2020	Hospital Sao Joaquim Beneficencia Portuguesa	Instituto Adolfo Lutz, Interdisciplinary Procedures Center, Strategic Laboratory	c
Brazil/SPBR-06/2020	EPI_ISL_414015	29.02.2020	Hospital Sao Joaquim Beneficencia Portuguesa	Instituto Adolfo Lutz, Interdisciplinary Procedures Center, Strategic Laboratory	c
Brazil/SPBR-07/2020	EPI_ISL_416028	03.03.2020	National Influenza Center - Instituto Adolfo Lutz	Instituto Adolfo Lutz, Interdisciplinary Procedures Center, Strategic Laboratory	c
Brazil/SPBR-08/2020	EPI_ISL_416029	04.03.2020	Laboratorio Fleury	Instituto Adolfo Lutz, Interdisciplinary Procedures Center, Strategic Laboratory	c
Brazil/SPBR-09/2020	EPI_ISL_416031	04.03.2020	National Influenza Center - Instituto Adolfo Lutz	Instituto Adolfo Lutz, Interdisciplinary Procedures Center, Strategic Laboratory	c
Brazil/SPBR-12/2020	EPI_ISL_416034	04.03.2020	Hospital Israelita Albert Einstein	Instituto Adolfo Lutz, Interdisciplinary Procedures Center, Strategic Laboratory	c
Brazil/SPBR-13/2020	EPI_ISL_416035	05.03.2020	National Influenza Center - Instituto Adolfo Lutz	Instituto Adolfo Lutz, Interdisciplinary Procedures Center, Strategic Laboratory	c
Brazil/SPBR-14/2020	EPI_ISL_416036	05.03.2020	National Influenza Center - Instituto Adolfo Lutz	Instituto Adolfo Lutz, Interdisciplinary Procedures Center, Strategic Laboratory	c
Canada/ON_PHL 0743/2020	EPI_ISL_418346	07.03.2020	Public Health Ontario Laboratories	Public Health Ontario Laboratories	c
Canada/ON_PHL 2653/2020	EPI_ISL_418371	07.03.2020	Public Health Ontario Laboratories	Public Health Ontario Laboratories	c
Canada/ON_PHL 3350/2020	EPI_ISL_418366	05.03.2020	Public Health Ontario Laboratories	Public Health Ontario Laboratories	c
Canada/ON_PHL 3650/2020	EPI_ISL_418349	07.03.2020	Public Health Ontario Laboratories	Public Health Ontario Laboratories	c
Canada/ON_PHL 3680/2020	EPI_ISL_418348	08.03.2020	Public Health Ontario Laboratories	Public Health Ontario Laboratories	c
Canada/ON_PHL 8751/2020	EPI_ISL_418345	29.02.2020	Public Health Ontario Laboratories	Public Health Ontario Laboratories	c
Canada/ON_PHL U8150/2020	EPI_ISL_418355	08.03.2020	Public Health Ontario Laboratories	Public Health Ontario Laboratories	c
Chile/Santiago-2/2020	EPI_ISL_414580	05.03.2020	Clinica Santa Maria, Santiago, Chile	Instituto de Salud Publica de Chile	c
China/WH-09/2020	EPI_ISL_411957	08.01.2020	unknown	Key Laboratory of Human Diseases, Comparative Medicine, Institute of Laboratory Animal Science	a, b
Colombia/Bogota 78390/2020	EPI_ISL_418262	06.03.2020	Instituto Nacional de Salud	Instituto Nacional de Salud Universidad Cooperativa de Colombia Instituto Alexander von Humboldt Imperial College-London	c

				London School of Hygiene & Tropical Medicine	
CzechRepublic/951/2020	EPI_ISL_414477	01.03.2020	The National Institute of Public Health Center for Epidemiology and Microbiology	State Veterinary Institute Prague	a, c, b
Denmark/SSI-04/2020	EPI_ISL_416153	02.03.2020	Department of Virus and Microbiological Special diagnostics, Statens Serum Institut, Copenhagen, Denmark.	ViFU	b
Denmark/SSI-05/2020	EPI_ISL_416140	02.03.2020	Department of Virus and Microbiological Special diagnostics, Statens Serum Institut, Copenhagen, Denmark.	Statens Serum Institute	c
Denmark/SSI-101/2020	EPI_ISL_415646	03.03.2020	Department of Virus and Microbiological Special diagnostics, Statens Serum Institut, Copenhagen, Denmark.	ViFU	a
Denmark/SSI-104/2020	EPI_ISL_415648	03.03.2020	Department of Virus and Microbiological Special diagnostics, Statens Serum Institut, Copenhagen, Denmark.	ViFU	b
England/20099107406/2020	EPI_ISL_415131	29.02.2020	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	c
England/200991076/2020	EPI_ISL_414524	01.03.2020	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	a, b
England/20100121007/2020	EPI_ISL_415141	29.02.2020	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	b
England/20100122107/2020	EPI_ISL_415143	02.03.2020	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	a, b
England/20102000106/2020	EPI_ISL_415144	27.02.2020	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	b
England/20102000506/2020	EPI_ISL_415147	01.03.2020	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	c

England/201020 68506/2020	EPI_ISL _415149	01.03.2020	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	a, b
England/201020 88002/2020	EPI_ISL _417216	25.02.2020	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	b
England/201040 08702/2020	EPI_ISL _417230	02.03.2020	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	c
England/201040 08802/2020	EPI_ISL _417231	03.03.2020	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	b
England/201040 09102/2020	EPI_ISL _417234	02.03.2020	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	a, b
England/201090 93606/2020	EPI_ISL _417285	06.03.2020	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	b
England/201090 98806/2020	EPI_ISL _417295	08.03.2020	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	b
England/201100 00706/2020	EPI_ISL _417302	05.03.2020	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	c
Finland/FIN- 455/2020	EPI_ISL _414642	08.03.2020	Department of Virology and Immunology, University of Helsinki and Helsinki University Hospital, Huslab Finland	Department of Virology, Faculty of Medicine, University of Helsinki, Helsinki, Finland	a
Finland/FIN0303 2020C/2020	EPI_ISL _413604	03.03.2020	Department of Virology and Immunology, University of Helsinki and Helsinki University Hospital, Huslab Finland	Department of Virology, Faculty of Medicine, University of Helsinki, Helsinki, Finland	c, b
France/B1623/20 20	EPI_ISL _418219	26.02.2020	CHU - Hopital Cavale Blanche - Labo. de Virologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/B2330/20 20	EPI_ISL _416502	26.02.2020	CHRU Pontchaillou - Laboratoire de Virologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/B2334/20 20	EPI_ISL _416503	01.03.2020	CHRU Pontchaillou - Laboratoire de Virologie	National Reference Center for Viruses of Respiratory	a, b

				Infections, Institut Pasteur, Paris	
France/B2335/2020	EPI_ISL_416504	02.03.2020	CHRU Pontchaillou - Laboratoire de Virologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/B2336/2020	EPI_ISL_416505	02.03.2020	CHRU Pontchaillou - Laboratoire de Virologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/B2337/2020	EPI_ISL_416506	03.03.2020	CHRU Pontchaillou - Laboratoire de Virologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, c, b
France/B2340/2020	EPI_ISL_416507	05.03.2020	CHRU Pontchaillou - Laboratoire de Virologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/B2343/2020	EPI_ISL_416508	06.03.2020	CHRU Pontchaillou - Laboratoire de Virologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/B2344/2020	EPI_ISL_416509	06.03.2020	CHRU Pontchaillou - Laboratoire de Virologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, c, b
France/B2346/2020	EPI_ISL_416510	06.03.2020	CHRU Pontchaillou - Laboratoire de Virologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/B2348/2020	EPI_ISL_416511	07.03.2020	CHRU Pontchaillou - Laboratoire de Virologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/B2349/2020	EPI_ISL_416512	07.03.2020	CHRU Pontchaillou - Laboratoire de Virologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, c, b
France/B2351/2020	EPI_ISL_416513	07.03.2020	CHRU Pontchaillou - Laboratoire de Virologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/BFC2094/2020	EPI_ISL_415651	05.03.2020	Unknown	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/BFC2147/2020	EPI_ISL_415652	05.03.2020	unknown	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/Bourg-en-Bresse_06678/2020	EPI_ISL_416757	07.03.2020	Centre Hospitalier de Bourg en Bresse	CNR Virus des Infections Respiratoires - France SUD	a, c, b

France/Bourg-en-Bresse_06813/2020	EPI_ISL_417340	07.03.2020	Centre Hospitalier de Bourg en Bresse	CNR Virus des Infections Respiratoires - France SUD	a, b
France/CVL2000/2020	EPI_ISL_418222	04.03.2020	CHRU Bretonneau - Serv. Bacterio-Virol.	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/Clermont-Ferrand_650/2020	EPI_ISL_416752	04.03.2020	CHU Gabriel Montpied	CNR Virus des Infections Respiratoires - France SUD	a, b
France/Clermont-Ferrand_651/2020	EPI_ISL_416751	05.03.2020	CHU Gabriel Montpied	CNR Virus des Infections Respiratoires - France SUD	a, c, b
France/GE1583/2020	EPI_ISL_414623	25.02.2020	Laboratoire de Virologie Institut de Virologie - INSERM U 1109 Hopitaux Universitaires de Strasbourg	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/GE1973/2020	EPI_ISL_414631	04.03.2020	Hopital Robert Debre Laboratoire de Virologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, c, b
France/GE1977/2020	EPI_ISL_414632	04.03.2020	Hopital Robert Debre Laboratoire de Virologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/HF1465/2020	EPI_ISL_418218	21.02.2020	Centre Hospitalier Compiègne Laboratoire de Biologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/HF1645/2020	EPI_ISL_418220	28.02.2020	Centre Hospitalier Compiègne Laboratoire de Biologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, c, b
France/HF1684/2020	EPI_ISL_414626	29.02.2020	unknown	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/HF1795/2020	EPI_ISL_414627	02.03.2020	Centre Hospitalier Compiègne Laboratoire de Biologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, c, b
France/HF1813/2020	EPI_ISL_418221	02.03.2020	Centre Hospitalier Compiègne Laboratoire de Biologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/HF1870/2020	EPI_ISL_414629	03.03.2020	Centre Hospitalier Compiègne Laboratoire de Biologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/HF1871/2020	EPI_ISL_414630	03.03.2020	Centre Hospitalier Compiègne Laboratoire de Biologie	National Reference Center for Viruses of Respiratory	a, b

				Infections, Institut Pasteur, Paris	
France/HF1986/2020	EPI_ISL_414634	04.03.2020	Centre Hospitalier Compiegne Laboratoire de Biologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/HF1988/2020	EPI_ISL_414635	04.03.2020	Centre Hospitalier Compiegne Laboratoire de Biologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, c, b
France/HF1989/2020	EPI_ISL_414636	04.03.2020	Centre Hospitalier Compiegne Laboratoire de Biologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/HF1993/2020	EPI_ISL_414637	04.03.2020	Centre Hospitalier Compiegne Laboratoire de Biologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/HF1995/2020	EPI_ISL_414638	04.03.2020	Centre Hospitalier Compiegne Laboratoire de Biologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/HF2039/2020	EPI_ISL_415649	05.03.2020	unknown	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/HF2060/2020	EPI_ISL_418223	05.03.2020	Centre Hospitalier Compiegne Laboratoire de Biologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/HF2150/2020	EPI_ISL_418224	08.03.2020	Centre Hospitalier Compiegne Laboratoire de Biologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/HF2151/2020	EPI_ISL_415653	08.03.2020	Centre Hospitalier Compiegne Laboratoire de Biologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, c, b
France/HF2155/2020	EPI_ISL_418225	08.03.2020	Centre Hospitalier Compiegne Laboratoire de Biologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/HF2196/2020	EPI_ISL_416493	08.03.2020	CH Jean de Navarre Laboratoire de Biologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/IDF0372/2020	EPI_ISL_406596	23.01.2020	Department of Infectious and Tropical Diseases, Bichat Claude Bernard Hospital, Paris	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/IDF0515/2020	EPI_ISL_408430	29.01.2020	Department of Infectious and Tropical Diseases, Bichat	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b

			Claude Bernard Hospital, Paris		
France/IDF0626/2020	EPI_ISL_408431	29.01.2020	Sorbonne Universite, Inserm et Assistance Publique-Hopitaux de Paris (Pitie Salpetriere)	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/IDF1980/2020	EPI_ISL_414633	04.03.2020	Centre Hospitalier Rene Dubois Laboratoire de Microbiologie - Bat A	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, c, b
France/IDF2075/2020	EPI_ISL_415650	02.03.2020	Hopital Instruction des Armees - BEGIN	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/Lyon_06042/2020	EPI_ISL_417333	04.03.2020	Institut des Agents Infectieux (IAI), Hospices Civils de Lyon	CNR Virus des Infections Respiratoires - France SUD	a, b
France/Lyon_06056/2020	EPI_ISL_417334	04.03.2020	Institut des Agents Infectieux (IAI), Hospices Civils de Lyon	CNR Virus des Infections Respiratoires - France SUD	a, c, b
France/Lyon_06464/2020	EPI_ISL_416753	06.03.2020	Institut des Agents Infectieux (IAI) Hospices Civils de Lyon	CNR Virus des Infections Respiratoires - France SUD	a, b
France/Lyon_06487/2020	EPI_ISL_416754	06.03.2020	Institut des Agents Infectieux (IAI) Hospices Civils de Lyon	CNR Virus des Infections Respiratoires - France SUD	a, b
France/Lyon_06531/2020	EPI_ISL_416756	06.03.2020	Institut des Agents Infectieux (IAI) Hospices Civils de Lyon	CNR Virus des Infections Respiratoires - France SUD	a, b
France/Lyon_06573/2020	EPI_ISL_417335	06.03.2020	Institut des Agents Infectieux (IAI), Hospices Civils de Lyon	CNR Virus des Infections Respiratoires - France SUD	a, b
France/Lyon_06625/2020	EPI_ISL_417337	07.03.2020	Institut des Agents Infectieux (IAI), Hospices Civils de Lyon	CNR Virus des Infections Respiratoires - France SUD	a, b
France/Lyon_0668/2020	EPI_ISL_417336	06.03.2020	Institut des Agents Infectieux (IAI), Hospices Civils de Lyon	CNR Virus des Infections Respiratoires - France SUD	a, b
France/Lyon_06820/2020	EPI_ISL_417339	08.03.2020	Institut des Agents Infectieux (IAI), Hospices Civils de Lyon	CNR Virus des Infections Respiratoires - France SUD	a, c, b
France/Lyon_0693/2020	EPI_ISL_416758	08.03.2020	Institut des Agents Infectieux (IAI) Hospices Civils de Lyon	CNR Virus des Infections Respiratoires - France SUD	a, c, b

France/Lyon_487/2020	EPI_ISL_416747	04.03.2020	Institut des Agents Infectieux (IAI) Hospices Civils de Lyon	CNR Virus des Infections Respiratoires - France SUD	a, c, b
France/Lyon_508/2020	EPI_ISL_416748	04.03.2020	Institut des Agents Infectieux (IAI) Hospices Civils de Lyon	CNR Virus des Infections Respiratoires - France SUD	a, c, b
France/Lyon_683/2020	EPI_ISL_416750	06.03.2020	Institut des Agents Infectieux (IAI) Hospices Civils de Lyon	CNR Virus des Infections Respiratoires - France SUD	a, c, b
France/Macon_06756/2020	EPI_ISL_417338	07.03.2020	Centre Hospitalier de Macon	CNR Virus des Infections Respiratoires - France SUD	a, b
France/N1620/2020	EPI_ISL_414624	26.02.2020	Centre Hospitalier Universitaire de Rouen Laboratoire de Virologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, c, b
France/N2223/2020	EPI_ISL_416494	04.03.2020	Centre Hospitalier Universitaire de Rouen Laboratoire de Virologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, c, b
France/PL1643/2020	EPI_ISL_414625	26.02.2020	Centre Hospitalier Regional Universitaire de Nantes Laboratoire de Virologie	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	a, b
France/RA739/2020	EPI_ISL_410486	08.02.2020	CNR Virus des Infections Respiratoires - France SUD	CNR Virus des Infections Respiratoires - France SUD	a, b
France/Valence_425/2020	EPI_ISL_416746	03.03.2020	CNR Virus des Infections Respiratoires - France SUD	CNR Virus des Infections Respiratoires - France SUD	a, c, b
France/Valence_532/2020	EPI_ISL_416749	04.03.2020	Centre Hospitalier de Valence	CNR Virus des Infections Respiratoires - France SUD	a, b
Georgia/Tb-273/2020	EPI_ISL_416479	05.03.2020	R. G. Lugar Center for Public Health Research, National Center for Disease Control and Public Health (NCDC) of Georgia.	R. G. Lugar Center for Public Health Research, National Center for Disease Control and Public Health (NCDC) of Georgia.	c
Germany/Baden-Wuerttemberg-1/2020	EPI_ISL_412912	25.02.2020	State Health Office Baden-Wuerttemberg	Charite Universitatsmedizin Berlin, Institute of Virology	a, c, b
Germany/BavPat1/2020	EPI_ISL_406862	28.01.2020	Charite Universitatsmedizin Berlin, Institute of Virology; Institut fur Mikrobiologie der Bundeswehr, Munich	Charite Universitatsmedizin Berlin, Institute of Virology	a, b
Germany/BavPat2/2020	EPI_ISL_414520	02.03.2020	Bundeswehr Institute of Microbiology	Bundeswehr Institute of Microbiology	a, b
Germany/BavPat3/2020	EPI_ISL_414521	02.03.2020	Bundeswehr Institute of Microbiology	Bundeswehr Institute of Microbiology	a, b

Germany/NRW-01/2020	EPI_ISL_413488	28.02.2020	Center of Medical Microbiology, Virology, and Hospital Hygiene, University of Duesseldorf	Center of Medical Microbiology, Virology, and Hospital Hygiene, University of Duesseldorf	a, b
Germany/NRW-011/2020	EPI_ISL_414507	03.03.2020	Center of Medical Microbiology, Virology, and Hospital Hygiene, University of Duesseldorf	Center of Medical Microbiology, Virology, and Hospital Hygiene, University of Duesseldorf	a, b
Germany/NRW-02-1/2020	EPI_ISL_414497	25.02.2020	Center of Medical Microbiology, Virology, and Hospital Hygiene, University of Duesseldorf	Center of Medical Microbiology, Virology, and Hospital Hygiene, University of Duesseldorf	a, b
Germany/NRW-03/2020	EPI_ISL_414498	26.02.2020	Center of Medical Microbiology, Virology, and Hospital Hygiene, University of Duesseldorf	Center of Medical Microbiology, Virology, and Hospital Hygiene, University of Duesseldorf	a, b
Germany/NRW-04/2020	EPI_ISL_414499	26.02.2020	Center of Medical Microbiology, Virology, and Hospital Hygiene, University of Duesseldorf	Center of Medical Microbiology, Virology, and Hospital Hygiene, University of Duesseldorf	a, b
Germany/NRW-05/2020	EPI_ISL_414504	26.02.2020	Center of Medical Microbiology, Virology, and Hospital Hygiene, University of Duesseldorf	Center of Medical Microbiology, Virology, and Hospital Hygiene, University of Duesseldorf	a, b
Germany/NRW-06/2020	EPI_ISL_414505	27.02.2020	Center of Medical Microbiology, Virology, and Hospital Hygiene, University of Duesseldorf	Center of Medical Microbiology, Virology, and Hospital Hygiene, University of Duesseldorf	a, b
Germany/NRW-07/2020	EPI_ISL_414506	27.02.2020	Center of Medical Microbiology, Virology, and Hospital Hygiene, University of Duesseldorf	Center of Medical Microbiology, Virology, and Hospital Hygiene, University of Duesseldorf	a, b
Germany/NRW-08/2020	EPI_ISL_414508	27.02.2020	Center of Medical Microbiology, Virology, and Hospital Hygiene, University of Duesseldorf	Center of Medical Microbiology, Virology, and Hospital Hygiene, University of Duesseldorf	a, b
Germany/NRW-09/2020	EPI_ISL_414509	28.02.2020	Center of Medical Microbiology, Virology, and Hospital Hygiene, University of Duesseldorf	Center of Medical Microbiology, Virology, and Hospital Hygiene, University of Duesseldorf	a, b
Germany/NRW-10/2020	EPI_ISL_414574	28.02.2020	Center of Medical Microbiology, Virology, and Hospital Hygiene, University of Duesseldorf	Center of Medical Microbiology, Virology, and Hospital Hygiene, University of Duesseldorf	a, b

Iceland/18/2020	EPI_ISL_417710	02.03.2020	The National University Hospital of Iceland	deCODE genetics	c
Iceland/46/2020	EPI_ISL_417751	04.03.2020	The National University Hospital of Iceland	deCODE genetics	b
Iceland/54/2020	EPI_ISL_417684	06.03.2020	The National University Hospital of Iceland	deCODE genetics	a
Ireland/Cork2/2020	EPI_ISL_417432	08.03.2020	UCD National Virus Reference Laboratory	Public Health Wales Microbiology Cardiff	a
Ireland/Dublin-19072/2020	EPI_ISL_414584	02.03.2020	UCD National Virus Reference Laboratory	UCD National Virus Reference Laboratory	c
Ireland/Limerick-19933/2020	EPI_ISL_414585	03.03.2020	UCD National Virus Reference Laboratory	UCD National Virus Reference Laboratory	b
Italy/CDG1/2020	EPI_ISL_412973	20.02.2020	Department of Infectious Diseases, Istituto Superiore di Sanita, Roma , Italy	Virology Laboratory, Scientific Department, Army Medical Center	a, c, b
Italy/FVG-ICGEB_S1/2020	EPI_ISL_417418	01.03.2020	Laboratory of Molecular Virology International Center for Genetic Engineering and Biotechnology (ICGEB)	ARGO Open Lab Platform for Genome sequencing	a, c, b
Italy/FVG-ICGEB_S5/2020	EPI_ISL_417419	01.03.2020	Laboratory of Molecular Virology International Center for Genetic Engineering and Biotechnology (ICGEB)	ARGO Open Lab Platform for Genome sequencing	a, c, b
Italy/FVG-ICGEB_S8/2020	EPI_ISL_417421	01.03.2020	Laboratory of Molecular Virology International Center for Genetic Engineering and Biotechnology (ICGEB)	ARGO Open Lab Platform for Genome sequencing	a, c, b
Italy/FVG-ICGEB_S9/2020	EPI_ISL_417423	01.03.2020	Laboratory of Molecular Virology International Center for Genetic Engineering and Biotechnology (ICGEB)	ARGO Open Lab Platform for Genome sequencing	a, c, b
Italy/INMI1-cs/2020	EPI_ISL_410546	29.01.2020	INMI Lazzaro Spallanzani IRCCS	Laboratory of Virology, INMI Lazzaro Spallanzani IRCCS	a, b
Italy/INMI3/2020	EPI_ISL_417921	01.03.2020	INMI Lazzaro Spallanzani IRCCS	Laboratory of Virology, INMI Lazzaro Spallanzani IRCCS	a, c, b
Italy/INMI4/2020	EPI_ISL_417922	28.02.2020	INMI Lazzaro Spallanzani IRCCS	Laboratory of Virology, INMI Lazzaro Spallanzani IRCCS	a, c, b
Italy/INMI5/2020	EPI_ISL_417923	04.03.2020	INMI Lazzaro Spallanzani IRCCS	Laboratory of Virology, INMI Lazzaro Spallanzani IRCCS	a, c, b
Italy/UniMI01/2020	EPI_ISL_417445	24.02.2020	Laboratory of Infectious Diseases, Department of Biomedical and Clinical Sciences L. Sacco, University of Milan	Laboratory of Infectious Diseases, Department of Biomedical and Clinical Sciences L. Sacco, University of Milan	a, c, b

Italy/UniMI03/2020	EPI_ISL_417447	24.02.2020	Laboratory of Infectious Diseases, Department of Biomedical and Clinical Sciences L. Sacco, University of Milan	Laboratory of Infectious Diseases, Department of Biomedical and Clinical Sciences L. Sacco, University of Milan	a, c, b
Italy/UniSR1/2020	EPI_ISL_413489	03.03.2020	Laboratorio di Microbiologia e Virologia, Università Vita-Salute San Raffaele, Milano	Laboratorio di Microbiologia e Virologia, Università Vita-Salute San Raffaele, Milano	a, c, b
Italy/UnivPM1/2020	EPI_ISL_417491	03.03.2020	Virology Laboratory, Department of Biomedical Sciences and Public Health, University Politecnica delle Marche	Virology and Legal Medicine Laboratories, Department of Biomedical Sciences and Public Health, University Politecnica delle Marche	a, c, b
Luxembourg/Lux1/2020	EPI_ISL_413593	29.02.2020	Laboratoire National de Sante	Erasmus Medical Center	a, c, b
Mexico/CDMX-IndRE_01/2020	EPI_ISL_412972	27.02.2020	Instituto Nacional de Enfermedades Respiratorias	Instituto de Diagnostico y Referencia Epidemiologicos (INDRE)	c
Netherlands/Andel_1365066/2020	EPI_ISL_413564	01.03.2020	MHC West-Brabant	Erasmus Medical Center	b
Netherlands/Berlicum_1363564/2020	EPI_ISL_413565	24.02.2020	Foundation Pamm	Erasmus Medical Center	b
Netherlands/Blaricum_1364780/2020	EPI_ISL_413566	02.03.2020	MHC Gooi & Vechtstreek	Erasmus Medical Center	c
Netherlands/Limburg_4/2020	EPI_ISL_414426	03.03.2020	Dutch COVID-19 response team	Erasmus Medical Center	b
Netherlands/NoordBrabant_15/2020	EPI_ISL_414455	06.03.2020	Dutch COVID-19 response team	Erasmus Medical Center	b
Netherlands/NoordBrabant_2/2020	EPI_ISL_414449	03.03.2020	Dutch COVID-19 response team	Erasmus Medical Center	c
Netherlands/NoordBrabant_3/2020	EPI_ISL_414429	02.03.2020	Dutch COVID-19 response team	Erasmus Medical Center	b
Netherlands/NoordBrabant_4/2020	EPI_ISL_414450	06.03.2020	Dutch COVID-19 response team	Erasmus Medical Center	b
Netherlands/Utrecht_6/2020	EPI_ISL_414461	04.03.2020	Dutch COVID-19 response team	Erasmus Medical Center	a
Netherlands/Zeevolde_1365080/2020	EPI_ISL_413591	02.03.2020	MHC Flevoland	Erasmus Medical Center	c, b
Netherlands/ZuidHolland_10/2020	EPI_ISL_414446	03.03.2020	Dutch COVID-19 response team	Erasmus Medical Center	a
Netherlands/ZuidHolland_13/2020	EPI_ISL_414470	06.03.2020	Dutch COVID-19 response team	Erasmus Medical Center	a
Netherlands/ZuidHolland_22/2020	EPI_ISL_414564	08.03.2020	Dutch COVID-19 response team	Erasmus Medical Center	a

Netherlands/Zuid Holland_6/2020	EPI_ISL_414466	04.03.2020	Dutch COVID-19 response team	Erasmus Medical Center	c
NewZealand/20VR0189/2020	EPI_ISL_416519	02.03.2020	Auckland Hospital	Institute of Environmental Science and Research (ESR)	c
NewZealand/20VR019/2020	EPI_ISL_416520	04.03.2020	Auckland Hospital	Institute of Environmental Science and Research (ESR)	c
Nigeria/Lagos01/2020	EPI_ISL_413550	27.02.2020	Centre for Human and Zoonotic Virology (CHAZVY), College of Medicine University of Lagos/Lagos University Teaching Hospital (LUTH), part of the Laboratory Network of the Nigeria Centre for Disease Control (NCDC)	African Centre of Excellence for Genomics of Infectious Diseases (ACEGID), Redeemer's University, Ede, Osun State, Nigeria	c
Norway/1493/2020	EPI_ISL_417488	29.02.2020	Oslo University Hospital, Department of Medical Microbiology	Norwegian Institute of Public Health, Department of Virology	b
Norway/1494/2020	EPI_ISL_417489	29.02.2020	Oslo University Hospital, Department of Medical Microbiology	Norwegian Institute of Public Health, Department of Virology	a
Norway/1526/2020	EPI_ISL_417485	02.03.2020	University Hospital of Northern Norway, Department for Microbiology and Infectious Disease Control	Norwegian Institute of Public Health, Department of Virology	c
Panama/328677/2020	EPI_ISL_415152	06.03.2020	Gorgas Memorial Institute for Health Studies	Gorgas Memorial Institute for Health Studies	c
Poland/PL_P1/2020	EPI_ISL_416488	03.03.2020	ViroGenetics - BSL3 Laboratory of Virology; Human Genome Variation Research Group & Genomics Centre MCB; Bioinformatics Research Group Department of Virology	ViroGenetics - BSL3 Laboratory of Virology; Human Genome Variation Research Group & Genomics Centre MCB; Bioinformatics Research Group Department of Virology	a, b
Portugal/PT0001b/2020	EPI_ISL_417986	03.03.2020	Centro Hospitalar e Universitario de Sao Joao, Porto	Instituto Nacional de Saude (INSA)	b
Portugal/PT0003/2020	EPI_ISL_417987	03.03.2020	Centro Hospitalar e Universitario de Sao Joao, Porto	Instituto Nacional de Saude (INSA)	b
Portugal/PT0026/2020	EPI_ISL_418011	04.03.2020	CHULC - H Curry Cabral	Instituto Nacional de Saude (INSA)	a, c
Scotland/CVR05/2020	EPI_ISL_414027	04.03.2020	West of Scotland Specialist Virology Centre, NHSGGC	MRC-University of Glasgow Centre for Virus Research	b

Senegal/003/2020	EPI_ISL_418206	28.02.2020	Institut Pasteur Dakar	Institut Pasteur de Dakar	c
Senegal/016/2020	EPI_ISL_418207	02.03.2020	Institut Pasteur Dakar	Institut Pasteur de Dakar	c
Senegal/020/2020	EPI_ISL_418208	04.03.2020	Institut Pasteur Dakar	Institut Pasteur de Dakar	c
Senegal/026/2020	EPI_ISL_418209	03.03.2020	Institut Pasteur Dakar	Institut Pasteur de Dakar	c
Slovakia/SK-BMC5/2020	EPI_ISL_417879	06.03.2020	Institute of Virology, Biomedical Research Center of the Slovak Academy of Sciences, Bratislava; Public Health Authority of the Slovak Republic, Bratislava	Institute of Virology, Biomedical Research Center of the Slovak Academy of Sciences, Bratislava; Comenius University Science Park, Bratislava	c, b
Slovakia/SK-BMC6/2020	EPI_ISL_417880	08.03.2020	Institute of Virology, Biomedical Research Center of the Slovak Academy of Sciences, Bratislava; Public Health Authority of the Slovak Republic, Bratislava	Institute of Virology, Biomedical Research Center of the Slovak Academy of Sciences, Bratislava; Comenius University Science Park, Bratislava	a
SouthAfrica/R03006/2020	EPI_ISL_417186	07.03.2020	National Institute for Communicable Diseases of the National Health Laboratory Service	National Institute for Communicable Diseases of the National Health Laboratory Service	c
Spain/Andalucia201272/2020	EPI_ISL_418243	28.02.2020	HOSPITAL UNIVERSITARIO VIRGEN DE LAS NIEVES	Instituto de Salud Carlos III	a, b
Spain/Andalucia201373/2020	EPI_ISL_418244	02.03.2020	HOSPITAL UNIVERSITARIO VIRGEN DE LAS NIEVES	Instituto de Salud Carlos III	b
Spain/CastillaLaMancha201328/2020	EPI_ISL_418245	01.03.2020	Hospital General y Universitario de Guadalajara	Instituto de Salud Carlos III	a, b
Spain/CastillaLaMancha201329/2020	EPI_ISL_418246	01.03.2020	Hospital General y Universitario de Guadalajara	Instituto de Salud Carlos III	a, b
Spain/CastillaLeon201061/2020	EPI_ISL_418247	26.02.2020	HOSPITAL GENERAL DE SEGOVIA	Instituto de Salud Carlos III	a, c, b
Spain/CastillaLeon201323/2020	EPI_ISL_418248	01.03.2020	COMPLEJO ASISTENCIAL UNIVERSITARIO DE BURGOS	Instituto de Salud Carlos III	a, b
Spain/CastillaLeon201372/2020	EPI_ISL_418249	03.03.2020	COMPLEJO ASISTENCIAL UNIVERSITARIO DE BURGOS	Instituto de Salud Carlos III	a, b
Spain/CastillaLeon201437/2020	EPI_ISL_416994	04.03.2020	COMPLEJO ASISTENCIAL	Instituto de Salud Carlos III	b

			UNIVERSITARIO DE BURGOS		
Spain/Galicia201663/2020	EPI_ISL_417007	07.03.2020	HOSPITAL SANTA MARIA NAI	Instituto de Salud Carlos III	a, c, b
Spain/Madrid201105/2020	EPI_ISL_418251	25.02.2020	HOSPITAL UNIVERSITARIO LA PAZ	Instituto de Salud Carlos III	a, c, b
Spain/Madrid201442/2020	EPI_ISL_417010	04.03.2020	FUNDACION JIMENEZ DIAZ	Instituto de Salud Carlos III	c, b
Spain/Madrid201449/2020	EPI_ISL_418252	04.03.2020	FUNDACION JIMENEZ DIAZ	Instituto de Salud Carlos III	a, b
Spain/Madrid_R10_33/2020	EPI_ISL_417981	02.03.2020	Hospital Universitario Ramon y Cajal	Hospital Universitario La Paz	a, b
Spain/Madrid_R2_15/2020	EPI_ISL_417979	03.03.2020	Hospital Universitario Ramon y Cajal	Hospital Universitario La Paz	a, b
Spain/Madrid_R5_8/2020	EPI_ISL_417980	03.03.2020	Hospital Universitario Ramon y Cajal	Hospital Universitario La Paz	b
Spain/PaisVasco201382/2020	EPI_ISL_418253	02.03.2020	HOSPITAL TXAGORRITXU	Instituto de Salud Carlos III	b
Spain/Valencia1/2020	EPI_ISL_414495	08.03.2020	Servicio Microbiologia. Hospital Clinico Universitario. Valencia.	Sequencing and Bioinformatics Service. Molecular Epidemiology Laboratory. FISABIO-Public Health	a, c, b
Spain/Valencia10/2020	EPI_ISL_417206	06.03.2020	Servicio de Microbiologia. Consorcio Hospital General Universitario de Valencia	Sequencing and Bioinformatics Service and Molecular Epidemiology Research Group. FISABIO-Public Health	a, b
Spain/Valencia2/2020	EPI_ISL_414496	04.03.2020	Servicio Microbiologia. Hospital Clinico Universitario. Valencia.	Sequencing and Bioinformatics Service. Molecular Epidemiology Laboratory. FISABIO-Public Health	a, b
Spain/Valencia3/2020	EPI_ISL_414598	05.03.2020	Servicio Microbiologia, Hospital Clinico Universitario, Valencia	Sequencing and Bioinformatics Service and Molecular Epidemiology Research Group. FISABIO-Public Health.	a, b
Spain/Valencia4/2020	EPI_ISL_416483	26.02.2020	Servicio de Microbiologia. Consorcio Hospital General Universitario de Valencia	Sequencing and Bioinformatics Service and Molecular Epidemiology Research Group. FISABIO-Public Health	a, b
Spain/Valencia5/2020	EPI_ISL_416484	27.02.2020	Servicio de Microbiologia. Consorcio Hospital General Universitario de Valencia	Sequencing and Bioinformatics Service and Molecular Epidemiology Research Group. FISABIO-Public Health	b
Spain/Valencia6/2020	EPI_ISL_416485	27.02.2020	Servicio de Microbiologia. Consorcio Hospital General Universitario de Valencia	Sequencing and Bioinformatics Service and Molecular Epidemiology Research Group. FISABIO-Public Health	a, b

Spain/Valencia7/2020	EPI_ISL_416486	02.03.2020	Servicio de Microbiología. Consorcio Hospital General Universitario de Valencia	Sequencing and Bioinformatics Service and Molecular Epidemiology Research Group. FISABIO-Public Health	c, b
Spain/Valencia8/2020	EPI_ISL_416487	04.03.2020	Servicio de Microbiología. Consorcio Hospital General Universitario de Valencia	Sequencing and Bioinformatics Service and Molecular Epidemiology Research Group. FISABIO-Public Health	b
Spain/Valencia9/2020	EPI_ISL_417205	02.03.2020	Servicio de Microbiología. Consorcio Hospital General Universitario de Valencia	Sequencing and Bioinformatics Service and Molecular Epidemiology Research Group. FISABIO-Public Health	a, b
Sweden/01/2020	EPI_ISL_411951	07.02.2020	unknown	Unit for Laboratory Development and Technology Transfer, Public Health Agency of Sweden	a, b
Switzerland/42169471/2020	EPI_ISL_418273	28.02.2020	University Hospital Basel, Clinical Virology	University Hospital Basel, Labormedizin	b
Switzerland/42177434/2020	EPI_ISL_418435	05.03.2020	University Hospital Basel, Clinical Virology	University Hospital Basel, Clinical Bacteriology	c
Switzerland/42178712/2020	EPI_ISL_418437	06.03.2020	University Hospital Basel, Clinical Virology	University Hospital Basel, Clinical Bacteriology	b
Switzerland/BE2536/2020	EPI_ISL_415704	04.03.2020	Hopitaux universitaires de Geneve Laboratoire de Virologie	Hopitaux universitaires de Geneve Laboratoire de Virologie	a
Switzerland/BL0902/2020	EPI_ISL_414021	27.02.2020	Laboratoire de Virologie, HUG	Swiss National Reference Centre for Influenza	a
Switzerland/GE3121/2020	EPI_ISL_414019	27.02.2020	Laboratoire de Virologie, HUG	Swiss National Reference Centre for Influenza	c
Switzerland/GE8102/2020	EPI_ISL_415458	01.03.2020	Hopitaux universitaires de Geneve Laboratoire de Virologie	Hopitaux universitaires de Geneve Laboratoire de Virologie	c
Switzerland/GE9586/2020	EPI_ISL_414022	27.02.2020	Laboratoire de Virologie, HUG	Swiss National Reference Centre for Influenza	b
Switzerland/GR2988/2020	EPI_ISL_415698	27.02.2020	Hopitaux universitaires de Geneve Laboratoire de Virologie	Hopitaux universitaires de Geneve Laboratoire de Virologie	a, b
Taiwan/NTU03/2020	EPI_ISL_413592	02.03.2020	Department of Laboratory Medicine, National Taiwan University Hospital	Microbial Genomics Core Lab, National Taiwan University Centers of Genomic and Precision Medicine	c
USA/CA-CDPH-UC24/2020	EPI_ISL_417328	07.03.2020	California Department of Public Health	Chiu Laboratory, University of California, San Francisco	c
USA/WA-UW25/2020	EPI_ISL_414594	05.03.2020	UW Virology Lab	UW Virology Lab	c
USA/WA-UW29/2020	EPI_ISL_414616	08.03.2020	UW Virology Lab	UW Virology Lab	c
Vietnam/39607/2020	EPI_ISL_416428	07.03.2020	National Influenza Center, National Institute of Hygiene	National Influenza Center, National Institute of Hygiene and Epidemiology (NIHE)	c

			and Epidemiology (NIHE)		
Vietnam/CM295/2020	EPI_ISL_416430	06.03.2020	National Influenza Center, National Institute of Hygiene and Epidemiology (NIHE)	National Influenza Center, National Institute of Hygiene and Epidemiology (NIHE)	c
Vietnam/CM296/2020	EPI_ISL_416431	06.03.2020	National Influenza Center, National Institute of Hygiene and Epidemiology (NIHE)	National Influenza Center, National Institute of Hygiene and Epidemiology (NIHE)	c
Wuhan-Hu-1/2019	EPI_ISL_402125	26.12.2019	unknown	National Institute for Communicable Disease Control and Prevention (ICDC) Chinese Center for Disease Control and Prevention (China CDC)	a, b
Wuhan/HBCDC-HB-04/2020	EPI_ISL_412980	18.01.2020	Union Hospital of Tongji Medical College, Huazhong University of Science and Technology	Hubei Provincial Center for Disease Control and Prevention	a, b
Wuhan/HBCDC-HB-05/2020	EPI_ISL_412981	18.01.2020	CR&WISCO GENERAL HOSPITAL	Hubei Provincial Center for Disease Control and Prevention	a, b
Wuhan/IVDC-HB-05/2019	EPI_ISL_402121	30.12.2019	National Institute for Viral Disease Control and Prevention, China CDC	National Institute for Viral Disease Control and Prevention, China CDC	a, b
Wuhan/WH01/2019	EPI_ISL_406798	26.12.2019	General Hospital of Central Theater Command of People's Liberation Army of China	BGI & Institute of Microbiology, Chinese Academy of Sciences & Shandong First Medical University & Shandong Academy of Medical Sciences & General Hospital of Central Theater Command of People's Liberation Army of China	a, b
Wuhan/WH03/2020	EPI_ISL_406800	01.01.2020	General Hospital of Central Theater Command of People's Liberation Army of China	BGI & Institute of Microbiology, Chinese Academy of Sciences & Shandong First Medical University & Shandong Academy of Medical Sciences & General Hospital of Central Theater Command of People's Liberation Army of China	a, b
Wuhan/WHU01/2020	EPI_ISL_406716	02.01.2020	unknown	State Key Laboratory of Virology, Wuhan University	a, b
Wuhan/WHU02/2020	EPI_ISL_406717	02.01.2020	unknown	State Key Laboratory of Virology, Wuhan University	a, b

Wuhan/WIV07/2 019	EPI_ISL _402130	30.12.2019	Wuhan Jinyintan Hospital	Wuhan Institute of Virology, Chinese Academy of Sciences	a, b
----------------------	--------------------	------------	-----------------------------	--	------

References