

**Table S1.** Sequence IDs, GISAID clades, Pango and Nextclade lineages of SARS-CoV-2 isolates used in the study

GISAID ID	COUNTRY	DATE	GISAID CLADE	PANGO LINEAGE	NEXTCLADE
EPI_ISL_766861	Algeria	2020-06-29	G	B.1.597	20A
EPI_ISL_766863	Algeria	2020-06-15	GH	B.1.36	20A
EPI_ISL_766866	Algeria	2020-06-20	GH	B.1.597	20C
EPI_ISL_766871	Algeria	2020-06-20	GR	B.1.1	20B
EPI_ISL_766874	Algeria	2020-06-21	GH	B.1	20C
EPI_ISL_1395999	Argentina	2020-08-24	GR	N.3	20B
EPI_ISL_1396011	Argentina	2020-06-18	GR	B.1.1.33	20B
EPI_ISL_2105573	Argentina	2021-01-27	GR	P.2	20B
EPI_ISL_2135164	Argentina	2021-03-10	GR	P.2	20B
EPI_ISL_792399	Argentina	2020-05-30	V	B.40	19A
EPI_ISL_849377	Argentina	2020-10-09	GR	N.5	20B
EPI_ISL_1121989	Australia	2021-02-05	GH	B.1.2	20G
EPI_ISL_1910856	Australia	2021-04-27	GH	AU.3	20A
EPI_ISL_419739	Australia	2020-03-09	S	A.1	19B
EPI_ISL_419932	Australia	2020-03-21	O	B.6	19A
EPI_ISL_1164966	Canada	2021-01-29	S	A.23.1	19B
EPI_ISL_1588117	Canada	2021-03-11	GR	B.1.1.519	20A
EPI_ISL_1588269	Canada	2021-03-29	GH	B.1.36	20A
EPI_ISL_459887	Canada	2020-03-30	GH	B.1	20C
EPI_ISL_848198	Canada	2020-12-24	GH	B.1.2	20G
EPI_ISL_2132221	Luan	2021-05-13	GR	B.1.1.317	20B
EPI_ISL_2170893	Liaoning	2020-05-30	GR	B.1.1.317	20B
EPI_ISL_416369	Shanghai	2020-02-05	L	B	19A
EPI_ISL_424355	Beijing	2020-01-24	S	A	19B
EPI_ISL_454997	Wuhan	2020-03-02	O	B	19A
EPI_ISL_529214	Wuhan	2019-12-30	L	B	19A
EPI_ISL_539333	Hunan	2020-01-17	L	B	19A
EPI_ISL_1235688	Colombia	2021-01-22	GH	B.1.111	20A
EPI_ISL_1738789	Colombia	2021-04-02	GH	B.1.111	20A
EPI_ISL_445219	Colombia	2020-04-02	GH	B.1	20C
EPI_ISL_456154	Colombia	2020-04-26	GR	B.1.1.388	20B
EPI_ISL_660069	Ecuador	2020-07-20	O	B.1.1.203	20B
EPI_ISL_697795	Ecuador	2020-09-29	GR	B.1.1	20B
EPI_ISL_1936204	Egypt	2021-03-27	GR	C.36	20D
EPI_ISL_1936294	Egypt	2021-04-04	GR	C.36	20D
EPI_ISL_2232304	Egypt	2020-10-04	GH	B.1	20A
EPI_ISL_2232362	Egypt	2020-09-27	GH	B.1	20A
EPI_ISL_2232405	Egypt	2020-05-30	GH	B.1.170	20A
EPI_ISL_1818828	France	2021-04-08	GH	B.1.160	20A
EPI_ISL_2279598	France	2021-02-18	GV	B.1.177.81	20E (EU1)
EPI_ISL_2293487	France	2021-05-10	GH	B.1.160	20A
EPI_ISL_560644	France	2020-05-09	GH	B.1	20C
EPI_ISL_754853	France	2020-12-16	GH	B.1.367	20C
EPI_ISL_754856	France	2020-09-16	GH	B.1.160	20A
EPI_ISL_574259	Germany	2020-06-26	GR	B.1.1	20B
EPI_ISL_732560	Germany	2020-05-26	GR	B.1.1	20B
EPI_ISL_732563	Germany	2020-10-08	GR	B.1.1	20B
EPI_ISL_414521	Germany	2020-03-02	S	A	19B
EPI_ISL_459963	Germany	2020-04-01	GR	B.1.1.25	20B
EPI_ISL_572397	Germany	2020-06-24	GR	B.1.1	20B

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GISAID ID	COUNTRY	DATE	GISAID CLADE	PANGO LINEAGE	NEXTCLADE
EPI_ISL_732557	Germany	2020-05-13	GR	B.1.1	20B
EPI_ISL_1586055	Iceland	2020-04-12	G	B.1	20A
EPI_ISL_1586502	Iceland	2020-04-03	GR	B.1.1	20B
EPI_ISL_424558	Iceland	2020-03-27	V	B	19A
EPI_ISL_829280	Iceland	2020-11-10	GR	B.1.1.170	20B
EPI_ISL_501236	Greece	2020-05-13	GR	B.1.1	20B
EPI_ISL_1716736	Greece	2021-03-23	GK	AY.122	21J (Delta)
EPI_ISL_1716737	Greece	2021-04-06	G	B.1.617.1	21B (Kappa)
EPI_ISL_430469	Greece	2020-02-29	G	B.1	20A
EPI_ISL_451310	Greece	2020-03-28	GR	B.1.1	20B
EPI_ISL_501248	Greece	2020-04-22	GR	B.1.1	20B
EPI_ISL_501251	Greece	2020-04-01	GR	B.1.1	20B
EPI_ISL_1273052	Guam	2020-12-15	GH	B.1.2	20G
EPI_ISL_1273066	Guam	2021-01-15	G	B.1.243	20A
EPI_ISL_1823584	USA	2021-03-26	GR	B.1.1.263	20B
EPI_ISL_444998	Guam	2020-03-26	O	B.6	19A
EPI_ISL_2157579	Honduras	2021-01-26	G	B.1.396	20A
EPI_ISL_2157584	Honduras	2021-02-18	GH	B.1.2	20G
EPI_ISL_1055383	India	2020-03-10	G	B.1.210	20A
EPI_ISL_1544153	India	2020-11-27	G	B.1	20A
EPI_ISL_2001120	India	2020-12-16	GH	B.1.36.8	20A
EPI_ISL_2017759	India	2021-04-13	GR	B.1.1	20B
EPI_ISL_2272933	India	2021-04-25	GK	B.1.617.2	21I (Delta)
EPI_ISL_2085509	Israel	2021-03-30	GH	B.1.351.2	20H (Beta)
EPI_ISL_2182149	Israel	2021-04-04	GRY	B.1.1.7	20I (Alpha)
EPI_ISL_419211	Israel	2020-02-23	O	B	19A
EPI_ISL_447432	Israel	2020-04-03	GH	B.1	20A
EPI_ISL_649099	Israel	2020-03-04	GR	B.1.1	20B
EPI_ISL_745066	Israel	2020-12-10	GR	B.1.1.50	20B
EPI_ISL_528947	Italy	2020-05-10	O	B.1.1	20B
EPI_ISL_603170	Italy	2020-06-22	GR	B.1.1	20B
EPI_ISL_722889	Italy	2020-10-25	GV	B.1.177.75	20E (EU1)
EPI_ISL_738121	Italy	2020-10-23	GV	B.1.177	20E (EU1)
EPI_ISL_751337	Italy	2020-08-12	GR	B.1.1	20B
EPI_ISL_1595847	Japan	2021-04-08	GR	R.1	20B
EPI_ISL_2322468	Japan	2021-01-26	GH	B.1.346	20C
EPI_ISL_691980	Japan	2020-04-15	GR	B.1.1	20B
EPI_ISL_692703	Japan	2020-07-30	GR	B.1.1.284	20B
EPI_ISL_454497	Kazakhstan	2020-05-14	S	A.2	19B
EPI_ISL_454501	Kazakhstan	2020-04-20	GH	B.1	20C
EPI_ISL_454520	Kazakhstan	2020-04-26	S	A.2	19B
EPI_ISL_1110541	Norway	2021-02-19	GH	B.1.36.21	20A
EPI_ISL_2226064	Norway	2021-04-16	GR	B.1.1.374	20B
EPI_ISL_2226159	Norway	2020-03-06	GH	B.1	20C
EPI_ISL_417487	Norway	2020-03-01	V	B	19A
EPI_ISL_549060	Norway	2020-08-05	GH	B.1.367	20C
EPI_ISL_590998	Norway	2020-09-01	GH	B.1	20A
EPI_ISL_906808	Norway	2021-01-13	GV	B.1.177	20E (EU1)
EPI_ISL_1904852	NewZealand	2021-04-12	GK	B.1.617.2	21I (Delta)
EPI_ISL_456177	NewZealand	2020-03-17	V	B.31	19A

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GISAID ID	COUNTRY	DATE	GISAID CLADE	PANGO LINEAGE	NEXTCLADE
EPI_ISL_456394	NewZealand	2020-04-25	L	B.23	19A
EPI_ISL_548022	NewZealand	2020-08-23	GR	C.12	20D
EPI_ISL_622819	NewZealand	2020-10-22	GV	B.1.177.4	20E (EU1)
EPI_ISL_637094	NewZealand	2020-11-06	G	B.1	20A
EPI_ISL_877222	NewZealand	2021-01-13	G	B.1.524	20A
EPI_ISL_1111139	Peru	2020-12-29	GR	B.1.1.348	20B
EPI_ISL_1111184	Peru	2020-03-20	L	B.3	19A
EPI_ISL_1111246	Peru	2020-05-19	GR	C.14	20D
EPI_ISL_1111445	Peru	2020-08-12	GR	B.1.1	20B
EPI_ISL_536507	Peru	2020-05-04	GR	B.1.1.1	20D
EPI_ISL_536523	Peru	2020-04-01	GR	C.14	20D
EPI_ISL_1818889	SouthAfrica	2021-02-02	GH	B.1.351	20H (Beta)
EPI_ISL_2140667	SouthAfrica	2020-10-09	GR	B.1.1.53	20B
EPI_ISL_2285331	SouthAfrica	2020-07-13	GR	B.1.1.448	20B
EPI_ISL_464129	SouthAfrica	2020-04-08	G	B.1.8	20A
EPI_ISL_498093	SouthAfrica	2020-07-14	GR	B.1.1	20B
EPI_ISL_1167154	Senegal	2021-01-18	L	B	19A
EPI_ISL_1167163	Senegal	2021-01-28	O	B.1	20A
EPI_ISL_1827949	Senegal	2021-01-03	G	B.1	20A
EPI_ISL_418209	Senegal	2020-03-03	GH	B.1.356	20C
EPI_ISL_482875	Senegal	2020-06-16	G	B.1.416	20A
EPI_ISL_1823433	USA	2021-03-11	GH	B.1.2	20G
EPI_ISL_1823552	USA	2021-04-04	GR	B.1.1.519	20A
EPI_ISL_1972279	USA	2021-04-22	GH	B.1.2	20G
EPI_ISL_1972300	USA	2021-04-26	GR	B.1.1.519	20A
EPI_ISL_2200150	USA	2021-03-25	GR	B.1.1.519	20A
EPI_ISL_2231302	USA	2020-12-15	G	B.1.561	20A
EPI_ISL_631758	USA	2020-03-19	GH	B.1	20C
EPI_ISL_940949	USA	2020-10-19	GR	B.1.1	20B
EPI_ISL_1035813	Nigeria	2020-12-11	GR	B.1.1.487	20B
EPI_ISL_1035818	Nigeria	2020-12-19	GR	L.3	20B
EPI_ISL_1035820	Nigeria	2020-12-20	GR	L.3	20B
EPI_ISL_1035826	Nigeria	2020-12-25	GR	L.3	20B
EPI_ISL_1093440	Nigeria	2021-01-03	GRY	B.1.1.7	20I (Alpha)
EPI_ISL_1093442	Nigeria	2021-01-07	GRY	B.1.1.7	20I (Alpha)
EPI_ISL_1173230	Nigeria	2021-01-25	GRY	B.1.1.7	20I (Alpha)
EPI_ISL_1235659	Nigeria	2021-01-27	GRY	B.1.1.7	20I (Alpha)
EPI_ISL_1242013	Nigeria	2021-02-11	GRY	B.1.1.7	20I (Alpha)
EPI_ISL_1242025	Nigeria	2021-01-06	GR	L.3	20B
EPI_ISL_1242028	Nigeria	2021-01-03	GR	L.3	20B
EPI_ISL_1715380	Nigeria	2021-01-08	GRY	B.1.1.7	20I (Alpha)
EPI_ISL_2241981	Nigeria	2020-12-21	GR	B.1.1	20B
EPI_ISL_455426	Nigeria	2020-03-29	S	A	19B
EPI_ISL_455431	Nigeria	2020-04-02	V	B.40	19A
EPI_ISL_487107	Nigeria	2020-05-08	S	A	19B
EPI_ISL_487109	Nigeria	2020-05-29	GH	B.1.22	20A
EPI_ISL_487111	Nigeria	2020-05-24	GR	B.1.1.10	20B
EPI_ISL_487113	Nigeria	2020-04-23	G	B.1	20A
EPI_ISL_527874	Nigeria	2020-03-23	V	B.40	19A
EPI_ISL_527878	Nigeria	2020-03-31	V	B.40	19A

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GISAID ID	COUNTRY	DATE	GISAID CLADE	PANGO LINEAGE	NEXTCLADE
EPI_ISL_527901	Nigeria	2020-06-12	GR	B.1.1	20B
EPI_ISL_527912	Nigeria	2020-06-13	GR	B.1.1	20B
EPI_ISL_527915	Nigeria	2020-06-17	GR	B.1.1	20B
EPI_ISL_730006	Nigeria	2020-05-03	GH	B.1	20A
EPI_ISL_730008	Nigeria	2020-05-04	GH	B.1.462	20A
EPI_ISL_730010	Nigeria	2020-05-08	S	A	19B
EPI_ISL_730013	Nigeria	2020-05-18	S	A	19B
EPI_ISL_730020	Nigeria	2020-06-26	GR	B.1.1.484	20B
EPI_ISL_730024	Nigeria	2020-07-01	GR	B.1.1.484	20B
EPI_ISL_730029	Nigeria	2020-04-25	GH	B.1	20C
EPI_ISL_730032	Nigeria	2020-05-14	GR	B.1.1	20B
EPI_ISL_730038	Nigeria	2020-05-27	GR	B.1.1	20B
EPI_ISL_730042	Nigeria	2020-08-17	G	B.1	20A
EPI_ISL_872604	Nigeria	2020-09-05	GR	L.3	20B
EPI_ISL_872607	Nigeria	2020-11-17	GR	B.1.1.487	20B
EPI_ISL_872609	Nigeria	2020-11-24	GR	B.1.1.487	20B
EPI_ISL_872611	Nigeria	2020-11-30	GR	L.3	20B
EPI_ISL_872614	Nigeria	2020-12-03	GR	L.3	20B
EPI_ISL_872616	Nigeria	2020-12-07	GR	L.3	20B
EPI_ISL_872622	Nigeria	2020-12-22	GR	L.3	20B
EPI_ISL_906279	Nigeria	2021-01-11	GRY	B.1.1.7	20I (Alpha)
EPI_ISL_906283	Nigeria	2021-01-13	GR	B.1.1	20B
EPI_ISL_906285	Nigeria	2020-12-01	GR	B.1.1.487	20B
EPI_ISL_906288	Nigeria	2020-12-03	GR	B.1.1.487	20B
EPI_ISL_906296	Nigeria	2020-12-16	GR	B.1.1	20B
EPI_ISL_906299	Nigeria	2020-12-17	GR	L.3	20B
EPI_ISL_941279	Nigeria	2020-11-25	GR	B.1.1.487	20B
EPI_ISL_941284	Nigeria	2020-12-21	GRY	B.1.1.7	20I (Alpha)
EPI_ISL_941291	Nigeria	2020-12-29	GR	B.1.1.487	20B
EPI_ISL_941293	Nigeria	2021-01-13	GRY	B.1.1.7	20I (Alpha)
EPI_ISL_977551	Nigeria	2021-01-11	GRY	B.1.1.7	20I (Alpha)
EPI_ISL_977553	Nigeria	2021-01-12	GRY	B.1.1.7	20I (Alpha)
EPI_ISL_977555	Nigeria	2021-01-07	GRY	B.1.1.7	20I (Alpha)
EPI_ISL_985058	Nigeria	2021-01-07	GRY	B.1.1.7	20I (Alpha)
EPI_ISL_985060	Nigeria	2021-01-14	GRY	B.1.1.7	20I (Alpha)
EPI_ISL_985065	Nigeria	2021-01-12	GRY	B.1.1.7	20I (Alpha)
EPI_ISL_985068	Nigeria	2021-01-11	GRY	B.1.1.7	20I (Alpha)
EPI_ISL_985129	Nigeria	2021-01-08	GR	L.3	20B
EPI_ISL_985238	Nigeria	2021-01-05	S	A.27	19B
EPI_ISL_1093467	Nigeria	2020-12-29	G	B.1.525	21D (Eta)
EPI_ISL_1093473	Nigeria	2021-01-05	G	B.1	21D (Eta)
EPI_ISL_1173208	Nigeria	2021-01-12	GRY	B.1.1.7	20I (Alpha)
EPI_ISL_1173221	Nigeria	2021-01-19	GR	L.3	20B
EPI_ISL_1173229	Nigeria	2021-01-25	GRY	B.1.1.7	20I (Alpha)
EPI_ISL_1173243	Nigeria	2021-01-22	S	A	19B
EPI_ISL_455362	Nigeria	2020-04-10	GH	B.1	20A
EPI_ISL_487099	Nigeria	2020-04-24	GR	B.1.1	20B
EPI_ISL_527881	Nigeria	2020-03-30	G	B.1	20A
EPI_ISL_527889	Nigeria	2020-06-09	GR	B.1.1.1	20D
EPI_ISL_527891	Nigeria	2020-06-16	GR	B.1.1	20B

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GISAID ID	COUNTRY	DATE	GISAID CLADE	PANGO LINEAGE	NEXTC LADE
EPI_ISL_527893	Nigeria	2020-05-11	GH	B.1.22	20A
EPI_ISL_729925	Nigeria	2020-06-11	GR	B.1.1.484	20B
EPI_ISL_729930	Nigeria	2020-07-07	GR	B.1.1	20B
EPI_ISL_729932	Nigeria	2020-07-08	GR	L.3	20B
EPI_ISL_729937	Nigeria	2020-04-25	GR	B.1.1.487	20B
EPI_ISL_729939	Nigeria	2020-04-20	GR	B.1.1.487	20B
EPI_ISL_729942	Nigeria	2020-04-25	GR	B.1.1.487	20B
EPI_ISL_729944	Nigeria	2020-05-16	GR	B.1.1	20B
EPI_ISL_729947	Nigeria	2020-05-14	V	B.40	19A
EPI_ISL_729953	Nigeria	2020-06-29	GR	B.1.1.10	20B
EPI_ISL_729957	Nigeria	2020-07-20	G	B.1	20A
EPI_ISL_729962	Nigeria	2020-04-27	GH	B.1.462	20A
EPI_ISL_729966	Nigeria	2020-06-24	GR	B.1.1	20B
EPI_ISL_729973	Nigeria	2020-07-08	GR	B.1.1.487	20B
EPI_ISL_729976	Nigeria	2020-08-04	GR	B.1.1.254	20B
EPI_ISL_729978	Nigeria	2020-08-31	GH	B.1.336	20C
EPI_ISL_729980	Nigeria	2020-09-03	GH	B.1.336	20C
EPI_ISL_729985	Nigeria	2020-10-12	GR	B.1.1	20B
EPI_ISL_729993	Nigeria	2020-07-20	G	B.1	20A
EPI_ISL_729995	Nigeria	2020-04-19	S	A	19B
EPI_ISL_737201	Nigeria	2020-05-22	GH	B.1.466	20A
EPI_ISL_906301	Nigeria	2020-12-17	GR	L.3	20B
EPI_ISL_906303	Nigeria	2020-12-06	GR	L.3	20B
EPI_ISL_985070	Nigeria	2021-01-11	GRY	B.1.1.7	20I (Alpha)
EPI_ISL_985078	Nigeria	2021-01-10	GRY	B.1.1.7	20I (Alpha)
EPI_ISL_985080	Nigeria	2021-01-09	GRY	B.1.1.7	20I (Alpha)
EPI_ISL_985097	Nigeria	2021-01-07	GRY	B.1.1.7	20I (Alpha)
EPI_ISL_985098	Nigeria	2021-01-07	GRY	B.1.1.7	20I (Alpha)
EPI_ISL_985099	Nigeria	2021-01-07	GRY	B.1.1.7	20I (Alpha)
EPI_ISL_402125	Wuhan	2019-12-31	L	B	19A