

Understanding the Evolutionary Dynamics of Monkeypox Virus Through Less Explored Pathways

Alessandra Mistral De Pascali^{1,2†}, Ludovica Ingletto^{2†}, Martina Brandolini^{1,2}, Ettore Rocchi^{2,3}, Martina Tarozzi^{2,3}, Maria Elena Turba⁴, Rita Casadio⁵, Fabio Gentilini⁶, Giulia Gatti^{1,2}, Laura Dionisi^{1,2}, Claudia Colosimo^{1,2}, Massimiliano Guerra¹, Silvia Zannoli¹, Giorgio Dirani¹, Maria Sofia Montanari¹, Anna Marzucco¹, Laura Grumiro¹, Giada Rossini^{2,7}, Tiziana Lazzarotto^{2,7}, Monica Cricca^{1,2}, Gastone Castellani^{2,3}, Vittorio Sambri^{1,2} and Alessandra Scagliarini^{2*}

Supplementary Material

Supplementary Table S1. The 267 high-quality MPXV genomes from clade II included in this analysis. The whole genome sequences were retrieved from NCBI Virus on October, 4th 2024.

Accession	date	region	country	division	host	clade	lineage
OQ427114.1	2022-10-XX	North America	USA	New York	Homo sapiens	IIb	B.1.12
OQ427121.1	2022-06-XX	North America	USA	Oregon	Homo sapiens	IIb	B.1.19
OQ451903.1	2023-01-XX	Europe	Germany		Homo sapiens	IIb	B.1.3
OQ451904.1	2023-01-XX	Europe	Germany		Homo sapiens	IIb	B.1.3
OQ557940.1	2022-08-XX	North America	USA	Texas	Homo sapiens	IIb	B.1.8
OQ702773.1	2022-07-XX	North America	USA	Rhode Island	Homo sapiens	IIb	B.1.7
OQ706777.1	2022-08-01	North America	USA	Maryland	Homo sapiens	IIb	B.1.7
OQ721920.1	2022-09-XX	North America	USA	Illinois	Homo sapiens	IIb	B.1.18
OQ721921.1	2022-09-XX	North America	USA	Kansas	Homo sapiens	IIb	B.1.13
OQ721922.1	2022-09-XX	North America	USA	Kansas	Homo sapiens	IIb	B.1.7
OQ721952.1	2023-03-XX	Asia	Taiwan		Homo sapiens	IIb	C.1
OQ721954.1	2023-03-XX	Asia	Taiwan		Homo sapiens	IIb	C.1
OR030928.1	2022-07-19	Europe	Belgium		Homo sapiens	IIb	B.1.8
OR035646.1	2022-07-27	Europe	Belgium		Homo sapiens	IIb	B.1.14
OR035719.1	2022-10-28	Europe	Belgium		Homo sapiens	IIb	B.1.11
OR035726.1	2022-10-28	Europe	Belgium		Homo sapiens	IIb	B.1.19
OR035732.1	2022-10-03	Europe	Belgium		Homo sapiens	IIb	B.1.3
OR087006.1	2022-08-03	Europe	Belgium		Homo sapiens	IIb	B.1.7
OR087009.1	2022-08-03	Europe	Belgium		Homo sapiens	IIb	B.1.8
OR146270.1	2022-08-26	Europe	Ireland		Homo sapiens	IIb	B.1
OR146271.1	2022-08-15	Europe	Ireland		Homo sapiens	IIb	B.1
OR146272.1	2022-07-11	Europe	Ireland		Homo sapiens	IIb	B.1

OR146273.1	2022-06-10	Europe	Ireland		Homo sapiens	IIb	B.1
OR146275.1	2022-08-29	Europe	Ireland		Homo sapiens	IIb	B.1
OR146276.1	2022-09-05	Europe	Ireland		Homo sapiens	IIb	B.1
OR146278.1	2022-09-05	Europe	Ireland		Homo sapiens	IIb	B.1
OR146280.1	2022-07-04	Europe	Ireland		Homo sapiens	IIb	B.1.1
OR146284.1	2022-08-08	Europe	Ireland		Homo sapiens	IIb	B.1
OR146289.1	2022-09-16	Europe	Ireland		Homo sapiens	IIb	B.1.10
OR146290.1	2022-09-23	Europe	Ireland		Homo sapiens	IIb	B.1
OR146291.1	2022-06-13	Europe	Ireland		Homo sapiens	IIb	B.1
OR146292.1	2022-06-13	Europe	Ireland		Homo sapiens	IIb	B.1.3
OR146293.1	2022-06-28	Europe	Ireland		Homo sapiens	IIb	B.1
OR146294.1	2022-06-23	Europe	Ireland		Homo sapiens	IIb	B.1
OR146295.1	2022-06-23	Europe	Ireland		Homo sapiens	IIb	B.1.3
OR146299.1	2022-06-21	Europe	Ireland		Homo sapiens	IIb	B.1.1
OR146300.1	2022-06-21	Europe	Ireland		Homo sapiens	IIb	B.1
OR146302.1	2022-06-17	Europe	Ireland		Homo sapiens	IIb	B.1
OR146303.1	2022-06-20	Europe	Ireland		Homo sapiens	IIb	B.1.3
OR146305.1	2022-06-20	Europe	Ireland		Homo sapiens	IIb	B.1.10
OR146314.1	2022-08-12	Europe	Ireland		Homo sapiens	IIb	B.1.7
OR146316.1	2022-08-12	Europe	Ireland		Homo sapiens	IIb	B.1.8
OR146352.1	2022-09-14	Europe	Ireland		Homo sapiens	IIb	B.1.2
OR146355.1	2022-08-19	Europe	Ireland		Homo sapiens	IIb	B.1.12
OR146365.1	2022-08-30	Europe	Ireland		Homo sapiens	IIb	B.1.12
OR146389.1	2022-09-20	Europe	Ireland		Homo sapiens	IIb	B.1.12
OR146423.1	2022-08-30	Europe	Ireland		Homo sapiens	IIb	B.1.3
OR146442.1	2022-06-28	Europe	Ireland		Homo sapiens	IIb	B.1.2

OR209313.1	2022-07-XX	North America	USA	Connecticut	Homo sapiens	IIb	B.1.11
OR209321.1	2022-07-XX	North America	USA	Minnesota	Homo sapiens	IIb	B.1.13
OR209324.1	2022-07-XX	North America	USA	Nebraska	Homo sapiens	IIb	B.1.12
OR209325.1	2022-08-XX	North America	USA	Nebraska	Homo sapiens	IIb	B.1.11
OR449639.1	2022-06-XX	Europe	Germany		Homo sapiens	IIb	B.1.2
OR449650.1	2022-06-XX	Europe	Germany		Homo sapiens	IIb	B.1.2
OR455100.1	2023-08-XX	North America	USA	Washington	Homo sapiens	IIb	A.2.1
OR459776.1	2022-11-15	Asia	South Korea		Homo sapiens	IIb	A.2.1
OR459777.1	2022-11-22	Asia	South Korea		Homo sapiens	IIb	A.2.1
OR459804.1	2023-04-25	Asia	South Korea		Homo sapiens	IIb	C.1
OR464199.1	2022-08-XX	North America	USA	New York	Homo sapiens	IIb	B.1.18
OR464201.1	2022-08-XX	North America	USA	New York	Homo sapiens	IIb	B.1.10
OR785044.1	2023-XX-XX	Asia	China		Homo sapiens	IIb	C.1.1
OR876394.1	2023-11-XX	North America	USA	Washington	Homo sapiens	IIb	B.1.20
OR876395.1	2023-11-XX	North America	USA	Washington	Homo sapiens	IIb	B.1.20
OR950770.1	2023-09-XX	North America	USA	Washington	Homo sapiens	IIb	B.1.20
OR950774.1	2023-11-XX	North America	USA	Washington	Homo sapiens	IIb	B.1.20
OR972728.1	2023-11-22	Europe	Germany		Homo sapiens	IIb	C.1.1
OX248696.1	2022-07-04	Europe	Slovakia		Homo sapiens	IIb	B.1.3
PP002088.1	2023-XX-XX	Europe	Germany		Homo sapiens	IIb	C.1.1
PP002089.1	2023-XX-XX	Europe	Germany		Homo sapiens	IIb	B.1.22
PP002090.1	2023-XX-XX	Europe	Germany		Homo sapiens	IIb	B.1.22
PP002091.1	2023-XX-XX	Europe	Germany		Homo sapiens	IIb	B.1.22
PP002092.1	2023-XX-XX	Europe	Germany		Homo sapiens	IIb	B.1.22
PP098580.2	2022-XX-XX	Europe	Italy	Campania Region	Homo sapiens	IIb	B.1.2
PP098581.2	2022-XX-XX	Europe	Italy	Campania Region	Homo sapiens	IIb	B.1

PP098583.2	2022-XX-XX	Europe	Italy	Campania Region	Homo sapiens	IIb	B.1
PP098584.2	2022-XX-XX	Europe	Italy	Campania Region	Homo sapiens	IIb	B.1
PP098585.2	2022-XX-XX	Europe	Italy	Campania Region	Homo sapiens	IIb	B.1
PP098586.2	2022-XX-XX	Europe	Italy	Campania Region	Homo sapiens	IIb	B.1
PP098588.2	2022-XX-XX	Europe	Italy	Campania Region	Homo sapiens	IIb	B.1
PP098589.2	2022-XX-XX	Europe	Italy	Campania Region	Homo sapiens	IIb	B.1
PP098590.2	2022-XX-XX	Europe	Italy	Campania Region	Homo sapiens	IIb	B.1
PP098594.2	2022-XX-XX	Europe	Italy	Campania Region	Homo sapiens	IIb	B.1
PP098596.2	2022-XX-XX	Europe	Italy	Campania Region	Homo sapiens	IIb	B.1
PP098597.2	2022-XX-XX	Europe	Italy	Campania Region	Homo sapiens	IIb	B.1.3
PP098600.2	2022-XX-XX	Europe	Italy	Campania Region	Homo sapiens	IIb	B.1.3
PP098602.2	2022-XX-XX	Europe	Italy	Campania Region	Homo sapiens	IIb	B.1
PP098603.2	2022-XX-XX	Europe	Italy	Campania Region	Homo sapiens	IIb	B.1
PP098606.2	2022-XX-XX	Europe	Italy	Campania Region	Homo sapiens	IIb	B.1
PP098607.2	2022-XX-XX	Europe	Italy	Campania Region	Homo sapiens	IIb	B.1.3
PP098608.2	2022-XX-XX	Europe	Italy	Campania Region	Homo sapiens	IIb	B.1
PP098609.2	2022-XX-XX	Europe	Italy	Campania Region	Homo sapiens	IIb	B.1
PP098611.2	2022-XX-XX	Europe	Italy	Campania Region	Homo sapiens	IIb	B.1
PP098615.2	2022-XX-XX	Europe	Italy	Campania Region	Homo sapiens	IIb	B.1
PP098616.2	2022-XX-XX	Europe	Italy	Campania Region	Homo sapiens	IIb	B.1
PP098617.2	2022-XX-XX	Europe	Italy	Campania Region	Homo sapiens	IIb	B.1
PP098618.2	2022-XX-XX	Europe	Italy	Campania Region	Homo sapiens	IIb	B.1
PP155393.1	2023-12-XX	North America	USA	Washington	Homo sapiens	IIb	B.1.20
PP852944.1	2022-XX-XX	Africa	Nigeria	Lagos	Homo sapiens	IIb	B.1
PP852946.1	2022-12-26	Africa	Nigeria	Bayelsa State	Homo sapiens	IIb	A.2.3
PP852947.1	2023-01-01	Africa	Nigeria	Abia	Homo sapiens	IIb	

PP852948.1	2023-01-02	Africa	Nigeria	Abia	Homo sapiens	IIb	A.2.3
PP852949.1	2022-12-30	Africa	Nigeria	Abia	Homo sapiens	IIb	
PP852950.1	2023-01-08	Africa	Nigeria	Akwaibom	Homo sapiens	IIb	A.2.3
PP852952.1	2022-01-01	Africa	Nigeria	Borno State	Homo sapiens	IIb	A.2.3
PP852953.1	2022-XX-XX	Africa	Nigeria	Imo	Homo sapiens	IIb	A.3
PP852954.1	2023-01-24	Africa	Nigeria	Abia	Homo sapiens	IIb	A.3
PP852955.1	2022-XX-XX	Africa	Nigeria	Edo	Homo sapiens	IIb	A.2.2
PP852958.1	2022-XX-XX	Africa	Nigeria	Edo	Homo sapiens	IIb	A.2.3
PP852959.1	2023-02-21	Africa	Nigeria	Akwaibom	Homo sapiens	IIb	A.2.3
PP852960.1	2023-02-21	Africa	Nigeria	Enugu	Homo sapiens	IIb	A.2.3
PP852961.1	2023-02-20	Africa	Nigeria	Crossriver	Homo sapiens	IIb	A.2.3
PP852962.1	2023-03-03	Africa	Nigeria	Rivers	Homo sapiens	IIb	A.2.3
PP852963.1	2023-03-03	Africa	Nigeria	Rivers	Homo sapiens	IIb	A.2.3
PP852964.1	2023-03-15	Africa	Nigeria	Niger	Homo sapiens	IIb	A.2.3
PP852965.1	2023-03-14	Africa	Nigeria	Bayelsa State	Homo sapiens	IIb	A.2.3
PP852967.1	2023-03-20	Africa	Nigeria	Abia	Homo sapiens	IIb	A.2.3
PP852968.1	2023-03-21	Africa	Nigeria	Enugu	Homo sapiens	IIb	A.2.3
PP852969.1	2023-04-17	Africa	Nigeria	Imo	Homo sapiens	IIb	A.2.3
PP852970.1	2023-05-16	Africa	Nigeria	Rivers	Homo sapiens	IIb	A.2.3
PP852971.1	2023-05-31	Africa	Nigeria	Federal Capital Territory	Homo sapiens	IIb	A.2.2
PP852973.1	2022-09-27	Africa	Nigeria	Rivers	Homo sapiens	IIb	A.2.3
PP852975.1	2022-09-19	Africa	Nigeria	Abia	Homo sapiens	IIb	A.2.3
PP852976.1	2022-10-21	Africa	Nigeria	Bayelsa State	Homo sapiens	IIb	A.2.3
PP852977.1	2022-11-01	Africa	Nigeria	Nasarawa State	Homo sapiens	IIb	A.2.2
PP852981.1	2022-09-20	Africa	Nigeria	Imo	Homo sapiens	IIb	A.2.3

PP852983.1	2022-10-05	Africa	Nigeria	Enugu	Homo sapiens	IIb	A.2.3
PP852985.1	2022-XX-XX	Africa	Nigeria	Ebonyi	Homo sapiens	IIb	A.3
PP852988.1	2022-09-12	Africa	Nigeria	Anambra	Homo sapiens	IIb	A.2.3
PP852989.1	2022-09-25	Africa	Nigeria	Kwara State	Homo sapiens	IIb	B.1
PP852992.1	2022-10-07	Africa	Nigeria	Bayelsa State	Homo sapiens	IIb	A.2.3
PP852994.1	2022-11-01	Africa	Nigeria	Edo	Homo sapiens	IIb	A.2.3
PP852995.1	2022-09-18	Africa	Nigeria	Lagos	Homo sapiens	IIb	A.2
PP852997.1	2022-09-26	Africa	Nigeria	Abia	Homo sapiens	IIb	A.2.3
PP852998.1	2022-09-26	Africa	Nigeria	Bayelsa State	Homo sapiens	IIb	A.2
PP853000.1	2022-10-24	Africa	Nigeria	Imo	Homo sapiens	IIb	A.2.3
PP853001.1	2022-09-13	Africa	Nigeria	Imo	Homo sapiens	IIb	A.2.3
PP853005.1	2022-10-01	Africa	Nigeria	Edo	Homo sapiens	IIb	A.2.3
PP853006.1	2022-10-08	Africa	Nigeria	Gombe	Homo sapiens	IIb	A.2
PP853007.1	2022-10-24	Africa	Nigeria	Imo	Homo sapiens	IIb	A.2.3
PP853008.1	2022-10-24	Africa	Nigeria	Bayelsa State	Homo sapiens	IIb	A.2.3
PP853009.1	2022-09-18	Africa	Nigeria	Bayelsa State	Homo sapiens	IIb	A.2.3
PP853010.1	2022-09-19	Africa	Nigeria	Bayelsa State	Homo sapiens	IIb	A.2.3
PP853018.1	2022-10-30	Africa	Nigeria	Bayelsa State	Homo sapiens	IIb	A.2.3
PP853021.1	2022-09-16	Africa	Nigeria	Delta	Homo sapiens	IIb	A.2.3
PP853022.1	2022-09-16	Africa	Nigeria	Lagos	Homo sapiens	IIb	A.2.2
PP853024.1	2022-XX-XX	Africa	Nigeria	Ebonyi	Homo sapiens	IIb	A.2.3
PP853027.1	2022-10-24	Africa	Nigeria	Kaduna State	Homo sapiens	IIb	A.2.3
PP853028.1	2022-11-02	Africa	Nigeria	Kano State	Homo sapiens	IIb	A.2.2
PP853032.1	2022-09-23	Africa	Nigeria	Lagos	Homo sapiens	IIb	A.2.2
PP853035.1	2022-10-05	Africa	Nigeria	Akwaibom	Homo sapiens	IIb	A.2.3
PP853041.2	2022-09-27	Africa	Nigeria	Anambra	Homo sapiens	IIb	A.2.3

PP853043.1	2022-10-12	Africa	Nigeria	Rivers	Homo sapiens	IIb	A.2
PP853044.1	2022-10-08	Africa	Nigeria	Akwaibom	Homo sapiens	IIb	A.2
PP853045.1	2022-10-24	Africa	Nigeria	Plateau	Homo sapiens	IIb	A.2
PP853046.1	2022-10-17	Africa	Nigeria	Imo	Homo sapiens	IIb	A.2.3
PP853047.1	2022-09-13	Africa	Nigeria	Lagos	Homo sapiens	IIb	A.2.3
PP853048.1	2022-09-12	Africa	Nigeria	Plateau	Homo sapiens	IIb	A.2.3
PP853049.1	2022-09-23	Africa	Nigeria	Lagos	Homo sapiens	IIb	A.2.3
PP853050.1	2022-09-27	Africa	Nigeria	Anambra	Homo sapiens	IIb	A.2.3
PP853051.1	2022-09-17	Africa	Nigeria	Kaduna State	Homo sapiens	IIb	A.2.3
PP853052.1	2022-10-14	Africa	Nigeria	Rivers	Homo sapiens	IIb	A.2.2
PP853053.1	2022-10-13	Africa	Nigeria	Bayelsa State	Homo sapiens	IIb	A.2
PQ153226.1	2023-09-XX	Asia	Thailand		Homo sapiens	IIb	C.1
PQ271634.1	XXXX-XX-XX		Missing	Synthetic Construct		IIb	B.1.1
PQ340494.1	2022-10-XX	North America	USA	Texas	Homo sapiens	IIb	B.1.17
AY741551.1	1970-XX-XX	Africa	Sierra Leone			IIa	
KJ642614.1	1965-XX-XX	Europe	Netherlands	South Holland		IIa	
LC753969.1	2022-10-XX	Asia	Japan	Tokyo	Homo sapiens	IIb	C.1
LC760460.1	2023-01-23	Asia	Japan	Tokyo	Homo sapiens	IIb	C.1
LC831698.1	2024-03-03	Asia	Japan	Tokyo	Homo sapiens	IIb	C.1
MN346700.1	2017-01-31	Africa	Côte d'Ivoire		Pan troglodytes verus	IIa	
MN648051.1	2018-10-04	Asia	Israel		Homo sapiens	IIb	A.1
MT903341.1	2018-08-14	Africa	Nigeria	Bayelsa State	Homo sapiens	IIb	A.1
MT903342.1	2019-05-XX	Asia	Singapore		Homo sapiens	IIb	A.1
MT903343.1	2018-09-XX	Europe	United Kingdom	Great Britain	Homo sapiens	IIb	A.1
NC_063383.1	2018-08-XX	Africa	Nigeria	Rivers	Homo sapiens	IIb	A

ON585037.1	2022-05-15	Europe	Portugal		Homo sapiens	IIb	B.1.9
ON622722.2	2022-05-22	Europe	France		Homo sapiens	IIb	B.1.3
ON649713.1	2022-05-19	Europe	Portugal		Homo sapiens	IIb	B.1.9
ON674051.1	2022-05-XX	North America	USA	Florida	Homo sapiens	IIb	A.2.1
ON675438.1	2022-05-XX	North America	USA	Virginia	Homo sapiens	IIb	A.2
ON676708.1	2021-11-XX	North America	USA	Maryland	Homo sapiens	IIb	A.1.1
ON694332.1	2022-05-XX	Europe	Germany		Homo sapiens	IIb	B.1.1
ON694333.1	2022-05-XX	Europe	Germany		Homo sapiens	IIb	B.1.1
ON694334.1	2022-05-XX	Europe	Germany		Homo sapiens	IIb	B.1.1
ON694335.1	2022-05-XX	Europe	Germany		Homo sapiens	IIb	B.1.15
ON754987.1	2022-05-23	Europe	Slovenia		Homo sapiens	IIb	B.1.3
ON755248.1	2022-06-XX	Europe	Germany		Homo sapiens	IIb	B.1.3
ON755256.1	2022-06-XX	Europe	Germany		Homo sapiens	IIb	B.1.3
ON780017.1	2022-05-21	Europe	Italy		Homo sapiens	IIb	B.1.5
ON782021.1	2022-05-24	Europe	Finland		Homo sapiens	IIb	B.1.3
ON792320.1	2022-06-01	Europe	Switzerland	Zürich	Homo sapiens	IIb	B.1.3
ON838178.1	2022-06-XX	Europe	Slovenia		Homo sapiens	IIb	B.1.3
ON843165.1	2022-05-24	Europe	Portugal		Homo sapiens	IIb	B.1.5
ON880538.1	2022-06-01	North America	Canada		Homo sapiens	IIb	B.1.9
ON880540.1	2022-06-01	North America	Canada		Homo sapiens	IIb	B.1.12
ON880548.1	2022-06-03	North America	Canada		Homo sapiens	IIb	B.1.12
ON959133.1	2022-05-XX	North America	USA	New York	Homo sapiens	IIb	B.1.14
ON959149.1	2022-07-XX	Europe	Germany		Homo sapiens	IIb	B.1.7
ON959154.1	2022-07-XX	Europe	Germany		Homo sapiens	IIb	B.1.5
ON959170.1	2022-07-XX	Europe	Germany		Homo sapiens	IIb	B.1.5
OP123055.1	2022-07-XX	North America	USA	Ohio	Homo sapiens	IIb	B.1.11

OP169336.1	2022-07-XX	North America	USA	Washington	Homo sapiens	IIb	B.1.11
OP169337.1	2022-07-XX	North America	USA	Ohio	Homo sapiens	IIb	B.1.13
OP171923.2	2022-07-15	North America	USA	Nebraska	Homo sapiens	IIb	B.1.8
OP205091.1	2022-06-13	Europe	United Kingdom		Homo sapiens	IIb	B.1.10
OP215225.1	2022-08-XX	Europe	Germany		Homo sapiens	IIb	B.1.5
OP215226.1	2022-08-XX	Europe	Germany		Homo sapiens	IIb	B.1.10
OP215250.1	2022-08-XX	Europe	Germany		Homo sapiens	IIb	B.1.3
OP215273.1	2022-08-XX	Europe	Germany		Homo sapiens	IIb	B.1.3
OP225962.1	2022-06-XX	North America	USA	Illinois	Homo sapiens	IIb	B.1.13
OP225966.1	2022-06-XX	North America	USA	Illinois	Homo sapiens	IIb	B.1.13
OP257254.1	2022-08-XX	North America	USA	Ohio	Homo sapiens	IIb	B.1.13
OP263633.1	2022-08-XX	Europe	Germany		Homo sapiens	IIb	B.1.7
OP270476.1	2022-08-XX	Europe	Germany		Homo sapiens	IIb	B.1.13
OP303780.1	2022-06-XX	North America	USA	Florida	Homo sapiens	IIb	B.1.12
OP303783.1	2022-06-XX	North America	USA	Illinois	Homo sapiens	IIb	B.1.13
OP303786.1	2022-06-XX	North America	USA	Illinois	Homo sapiens	IIb	B.1.13
OP303788.1	2022-06-XX	North America	USA	Kentucky	Homo sapiens	IIb	B.1.13
OP303790.1	2022-06-XX	North America	USA	Illinois	Homo sapiens	IIb	B.1.7
OP310050.1	2022-08-XX	North America	USA	Ohio	Homo sapiens	IIb	B.1.13
OP310053.1	2022-08-XX	North America	USA	Washington	Homo sapiens	IIb	B.1.13
OP320548.1	2022-07-01	South America	Peru		Homo sapiens	IIb	B.1.6
OP320549.1	2022-07-02	South America	Peru		Homo sapiens	IIb	B.1.6
OP320550.1	2022-07-09	South America	Peru		Homo sapiens	IIb	B.1.6
OP326284.1	2022-06-18	Europe	Germany		Homo sapiens	IIb	B.1.2
OP331335.1	2022-06-03	Europe	United Kingdom		Homo sapiens	IIb	A.2.1
OP331336.1	2022-06-29	Europe	United Kingdom		Homo sapiens	IIb	A.2.2

OP351281.2	2022-07-22	North America	USA	Oklahoma	Homo sapiens	IIb	B.1.13
OP351285.2	2022-07-27	North America	USA	Oklahoma	Homo sapiens	IIb	B.1.13
OP378704.1	2022-06-XX	North America	USA	Texas	Homo sapiens	IIb	B.1.14
OP392544.1	2022-08-XX	North America	USA	Washington	Homo sapiens	IIb	B.1.17
OP392546.1	2022-08-XX	North America	USA	Washington	Homo sapiens	IIb	B.1.17
OP413717.1	2022-08-XX	Europe	United Kingdom		Homo sapiens	IIb	B.1.19
OP413718.1	2022-08-XX	Europe	United Kingdom		Homo sapiens	IIb	A.3
OP415224.1	2022-08-XX	Europe	United Kingdom		Homo sapiens	IIb	B.1.6
OP484673.1	2022-09-XX	Europe	Germany		Homo sapiens	IIb	B.1.15
OP524001.1	2022-09-XX	Europe	Germany		Homo sapiens	IIb	B.1.12
OP536704.2	2022-06-22	North America	USA	Illinois	Homo sapiens	IIb	B.1.13
OP536731.2	2022-06-30	North America	USA	Illinois	Homo sapiens	IIb	B.1.13
OP536732.2	2022-07-01	North America	USA	Illinois	Homo sapiens	IIb	B.1.13
OP536737.2	2022-07-01	North America	USA	Illinois	Homo sapiens	IIb	B.1.13
OP536738.2	2022-07-01	North America	USA	Illinois	Homo sapiens	IIb	B.1.13
OP536745.2	2022-07-06	North America	USA	Illinois	Homo sapiens	IIb	B.1.13
OP594193.1	2022-09-XX	Europe	Germany		Homo sapiens	IIb	B.1.10
OP594203.1	2022-09-XX	Europe	Germany		Homo sapiens	IIb	B.1.3
OP597769.1	2022-09-26	Africa	Egypt		Homo sapiens	IIb	A.2.1
OP603009.1	2022-07-XX	North America	USA	Arizona	Homo sapiens	IIb	B.1.13
OP603010.1	2022-07-XX	North America	USA	Michigan	Homo sapiens	IIb	B.1.13
OP612683.1	2019-04-18	Africa	Nigeria		Homo sapiens	IIb	A.1
OP681772.1	2022-08-XX	North America	USA	Washington	Homo sapiens	IIb	B.1.4
OP687938.1	2022-08-XX	North America	USA	New Jersey	Homo sapiens	IIb	B.1.9
OP715820.1	2022-06-XX	Europe	Germany		Homo sapiens	IIb	B.1.8
OP743957.1	2022-08-XX	North America	USA	Ohio	Homo sapiens	IIb	B.1.13

OP752124.1	2022-07-XX	North America	USA	Washington	Homo sapiens	IIb	B.1.1
OP764619.1	2022-06-XX	Europe	Germany		Homo sapiens	IIb	B.1.15
OP837347.1	2022-06-XX	Europe	Germany		Homo sapiens	IIb	B.1.8
OP837350.1	2022-06-XX	Europe	Germany		Homo sapiens	IIb	B.1.14
OP838893.1	2022-06-21	Europe	Italy		Homo sapiens	IIb	B.1.19
OP881942.1	2022-09-XX	North America	USA	California	Homo sapiens	IIb	B.1.4
OP881955.1	2022-07-XX	North America	USA	Virginia	Homo sapiens	IIb	B.1.12
OQ054244.1	2022-09-XX	North America	USA	California	Homo sapiens	IIb	B.1.17
OQ261694.2	2022-11-14	Asia	South Korea		Homo sapiens	IIb	A.2.1
OQ320446.1	2022-09-XX	North America	USA	Washington DC	Homo sapiens	IIb	B.1.4
OQ320456.1	2022-10-XX	North America	USA	Kansas	Homo sapiens	IIb	B.1.13
OQ320465.1	2022-08-XX	North America	USA	New York		IIb	B.1.18