

Table S1. Virus name, accession ID and country of Omicron sub-variants studied in this study. The data was obtained from GISAID's EpiCoV database.

Variant	Virus Name	Accession ID	Country of Sequence
Wuhan-Hu-1	hCoV-19/Wuhan/Hu-1/2019	EPI_ISL_402125	China
BA.1	hCoV-19/Russia/MOW-CRIE-L188V0599/2021	EPI_ISL_11584122	Russia
BA.1.1	hCoV-19/Finland/THL-202209082/2022	EPI_ISL_11813207	Finland
BA.2	hCoV-19/India/MH-INSACOG-CSIR-NEERI1403/2022	EPI_ISL_11883942	India
BA.2.10	hCoV-19/USA/VA_FBCH_3454/2022	EPI_ISL_15748451	USA
BA.2.10.4	hCoV-19/England/LSPA-15209982/2022	EPI_ISL_15019850	England
BA.2.12.1	hCoV-19/India/Karnataka/KA-INSACOG_JNC-294/2022	EPI_ISL_13409765	India
BA.2.3.20	hCoV-19/Singapore/11876/2022	EPI_ISL_15031207	Singapore
BA.2.75	hCoV-19/Nepal/NPHL-S-1845/2022	EPI_ISL_15313041	Nepal
BA.2.75.1	hCoV-19/India/HR-764002196/2022	EPI_ISL_14819052	India
BA.2.75.2	hCoV-19/India/HR-764774549/2022	EPI_ISL_14841683	India
BA.2.75.3	hCoV-19/India/KA-INSACOG_JNC_319/2022	EPI_ISL_14722979	India
BA.2.75.4	hCoV-19/India/KA-INSACOG_JNC_320/2022	EPI_ISL_14722980	India
BA.2.75.5	hCoV-19/India/JK-759101892/2022	EPI_ISL_15192541	India
BA.2.75.6	hCoV-19/Nepal/NPHL-S-1829/2022	EPI_ISL_15313025	Nepal
BA.2.75.7	hCoV-19/India/KA-INSACOG_JNC_343/2022	EPI_ISL_14723003	India
BA.2.75.8	hCoV-19/New Zealand/22XA3062/2022	EPI_ISL_15278276	New Zealand

BA.4	hCoV-19/USA/TN-SPHL-3729/2022	EPI_ISL_15852538	USA
BA.4.1.10	hCoV-19/Spain/PV-HUD-78252035/2022	EPI_ISL_15311814	Spain
BA.4.6	hCoV-19/France/HDF-IPP47842/2022	EPI_ISL_14439420	France
BA.4.7	hCoV-19/France/HDF-IPP47913/2022	EPI_ISL_14439355	France
BA.5	hCoV-19/France/HDF-IPP47946/2022	EPI_ISL_14439279	France
BA.5.1.18	hCoV-19/New Zealand/22YA3038/2022	EPI_ISL_15276713	New Zealand
BA.5.1.20	hCoV-19/Canada/BC-BCCDC-514682/2022	EPI_ISL_15184271	Canada
BA.5.2	hCoV-19/France/OCC-IPP48063/2022	EPI_ISL_14439359	France
BA.5.2.13	hCoV-19/Denmark/DCGC-588970/2022	EPI_ISL_15267531	Denmark
BA.5.3	hCoV-19/Netherlands/NH-RIVM- 103407/2022	EPI_ISL_13760344	The Netherlands
BA.5.6	hCoV-19/USA/OH-CDC-QDX41381270/2022	EPI_ISL_15113965	USA
BA.5.6.2	hCoV-19/Canada/BC-BCCDC-506289/2022	EPI_ISL_15051942	Canada
BA.5.9	hCoV-19/Netherlands/NH-RIVM- 104967/2022	EPI_ISL_13855261	The Netherlands
BF.11	hCoV-19/USA/NY-URMC-220989081-1/2022	EPI_ISL_15145141	USA
BF.13	hCoV-19/USA/NJ-CDC-LC0886409/2022	EPI_ISL_15160036	USA
BF.7	hCoV-19/Brazil/ES-LACENES-321304402/2022	EPI_ISL_15604583	Brazil
BJ.1	hCoV-19/Canada/BC-BCCDC-500338/2022	EPI_ISL_15050448	Canada
BL.1	hCoV-19/Nepal/NPHL-S-1887/2022	EPI_ISL_15430092	Nepal

BM.1	hCoV-19/France/IDF-HMN-22102060308/2022	EPI_ISL_15554243	France
BM.1.1	hCoV-19/USA/NY-NYULH9255/2022	EPI_ISL_15710478	USA
BM.1.1.1	hCoV-19/Bangladesh/icddrb-G148987/2022	EPI_ISL_15157642	Bangladesh
BM.2	hCoV-19/USA/CA-SCPHL-22WGS02101/2022	EPI_ISL_15533693	USA
BM.4.1	hCoV-19/Hong Kong/HK-HKPU- PUU046841104/2022	EPI_ISL_15680668	Hong Kong
BM.4.1.1	hCoV-19/India/GA-ICMR-NIV- INSACOG-GSEQ-12561/2022	EPI_ISL_15854770	India
BN.1	hCoV-19/Malaysia/MKAKK_WC414/2022	EPI_ISL_15757370	Malaysia
BQ.1	hCoV-19/USA/CA-Stanford-103_S46/2022	EPI_ISL_15078219	USA
BQ.1.1	hCoV-19/Brazil/ES-LACENES-321312063/2022	EPI_ISL_15814053	Brazil
BR.1	hCoV-19/USA/SC-CDC-LC0899124/2022	EPI_ISL_15411882	USA
BR.2	hCoV-19/Japan/IC-14890/2022	EPI_ISL_15472231	Japan
BS.1	hCoV-19/Japan/TY41-768-P1/2022	EPI_ISL_15492872	Japan
BU.1	hCoV-19/USA/CT-CDC-LC0903675/2022	EPI_ISL_15410608	USA
BW.1	hCoV-19/Netherlands/NH-AUMC- 034050/2022	EPI_ISL_15826475	The Netherlands
BY.1	hCoV-19/India/TN-CDFD-O-111/2022	EPI_ISL_15469908	India
CA.1	hCoV-19/USA/NC-CDC-LC0894816/2022	EPI_ISL_15399812	USA
XBB	hCoV-19/USA/NJ-CDC-LC0923611/2022	EPI_ISL_15744367	USA