

other	
Omicron_BA.2	[T19I,L24-,P25-,P26-,A27S,G142D,V213G,G339D,S371F,S373P,S375F,T376A,D405N,R408S,K417N,N440K,S477N,T478K,E484A,Q493R,Q498R,N501Y,Y505H,D614G,H655Y,N679K,P681H,N764K,D796Y,Q954H,N969K]
Omicron_BA.1.1+214GAR	[A67V,H69-,V70-,T95I,G142D,V143-,Y144-,Y145-,N211-,L212I,+214GAR,D215N,G339D,R346K,S371L,S373P,S375F,K417N,N440K,G446S,S477N,T478K,E484A,Q493R,G496S,Q498R,N501Y,Y505H,T547K,D614G,H655Y,N679K,P681H,N764K,D796Y,N856K,Q954H,N969K,L981F]
Omicron_BA.1+214GAR	[A67V,H69-,V70-,T95I,G142D,V143-,Y144-,Y145-,N211-,L212I,+214GAR,D215N,G339D,S371L,S373P,S375F,K417N,N440K,G446S,S477N,T478K,E484A,Q493R,G496S,Q498R,N501Y,Y505H,T547K,D614G,H655Y,N679K,P681H,N764K,D796Y,N856K,Q954H,N969K,L981F]
Omicron+A701V	[A67V,H69-,V70-,T95I,G142D,V143-,Y144-,Y145-,N211-,L212I,+214EPE,G339D,S371L,S373P,S375F,K417N,N440K,G446S,S477N,T478K,E484A,Q493R,G496S,Q498R,N501Y,Y505H,T547K,D614G,H655Y,N679K,P681H,A701V,N764K,D796Y,N856K,Q954H,N969K,L981F]
Omicron_BA.1.1	[A67V,H69-,V70-,T95I,G142D,V143-,Y144-,Y145-,N211-,L212I,+214EPE,G339D,R346K,S371L,S373P,S375F,K417N,N440K,G446S,S477N,T478K,E484A,Q493R,G496S,Q498R,N501Y,Y505H,T547K,D614G,H655Y,N679K,P681H,N764K,D796Y,N856K,Q954H,N969K,L981F]
Omicron_BA.1	[A67V,H69-,V70-,T95I,G142D,V143-,Y144-,Y145-,N211-,L212I,+214EPE,G339D,S371L,S373P,S375F,K417N,N440K,G446S,S477N,T478K,E484A,Q493R,G496S,Q498R,N501Y,Y505H,T547K,D614G,H655Y,N679K,P681H,N764K,D796Y,N856K,Q954H,N969K,L981F]
Delta+FurinRelated	[T19R,T95I,G142D,E156-,F157-,R158G,L452R,T478K,D614G,N679S,P681R,D950N]
Delta+FurinRelated	[T19R,T95I,G142D,E156-,F157-,R158G,L452R,T478K,D614G,Q677H,P681R,D950N]
Delta+FurinRelated	[T19R,T95I,G142D,E156-,F157-,R158G,L452R,T478K,D614G,Q675H,P681R,D950N]
Delta+FurinRelated	[T19R,G142D,E156-,F157-,R158G,L452R,T478K,D614G,P681H,D950N]
Delta+FurinRelated	[T19R,T95I,G142D,E156-,F157-,R158G,L452R,T478K,D614G,H655Y,P681R,D950N]
Delta+Y145H,A222V	[T19R,T95I,G142D,Y145H,E156-,F157-,R158G,A222V,L452R,T478K,D614G,P681R,D950N]
Delta+S112L	[T19R,S112L,G142D,E156-,F157-,R158G,L452R,T478K,D614G,P681R,D950N]
Delta+V1264L	[T19R,G142D,E156-,F157-,R158G,L452R,T478K,D614G,P681R,D950N,V1264L]
Delta+T95_,A222V	[T19R,G142D,E156-,F157-,R158G,A222V,L452R,T478K,D614G,P681R,D950N]
Delta	[T19R,G142D,E156G,+156D,F157-,R158-,V159-,L452R,T478K,D614G,P681R,D950N]
Delta	[T19R,G142D,E156-,F157-,R158G,L452R,T478K,D614G,P681R,D950N]
B.1.640.2	[L5F,P9L,E96Q,C136-,N137-,D138-,P139-,F140-,L141-,G142-,V143-,Y144-,R190S,D215H,R346S,N394S,Y449N,E484K,F490S,N501Y,D614G,P681H,T859N,D1139H]
B.1.640.1	[P9L,E96Q,C136-,N137-,D138-,P139-,F140-,L141-,G142-,V143-,Y144-,R190S,I210T,R346S,N394S,Y449N,F490R,N501Y,D614G,P681H,T859N,D936H]
Gamma+FurinRelated	[L18F,T20N,P26S,D138Y,R190S,K417T,E484K,N501Y,D614G,H655Y,P681H,T1027I,V1176F]
Gamma+FurinRelated	[L18F,T20N,P26S,D138Y,R190S,K417T,E484K,N501Y,D614G,H655Y,N679K,T1027I,V1176F]
Gamma+FurinRelated	[L18F,T20N,P26S,D138Y,R190S,K417T,E484K,N501Y,D614G,H655Y,Q677H,T1027I,V1176F]
Gamma+FurinRelated	[L18F,T20N,P26S,D138Y,R190S,K417T,E484K,N501Y,D614G,H655Y,Q675H,T1027I,V1176F]
Gamma	[L18F,T20N,P26S,D138Y,R190S,K417T,E484K,N501Y,D614G,H655Y,T1027I,V1176F]
Mu	[T95I,+143T,Y144S,Y145N,R346K,E484K,N501Y,D614G,P681H,D950N]
Lambda	[G75V,T76I,R246N,S247-,Y248-,L249-,T250-,P251-,G252-,D253-,L452Q,F490S,D614G,T859N]
Beta	[L18F,D80A,D215G,L242-,A243-,L244-,K417N,E484K,N501Y,D614G,A701V]
Alpha	[H69-,V70-,Y144-,Y449S,N501Y,A570D,D614G,P681H,S982A,D1118H,P1162S,V1264L]
Alpha	[H69-,V70-,Y144-,N501Y,A570D,D614G,P681H,T716I,S982A,D1118H]
Alpha	[H69-,V70-,N501Y,A570D,D614G,P681H,T716I,S982A,D1118H]
Alpha	[H69-,V70-,Y144-,N501Y,A570D,D614G,P681H,T716I,S982A,D1118H]