

**Table S3.** Mutations comprising the 501Y lineage meta-signature. Related to Figure 4 and Figure 5

Mutation (gene segment coordinate)	Positive selection G=Global (in lineage VX)	Inter-lineage convergence	Maximum fold increase between March and June 2021 (lineage)
ORF1a/265I(nsp2/85I)	G	V1,V2	2.2 (V1)
ORF1a/681F(nsp2/501F)	G (V3)	V1,V2,V3	3.0 (V2)
ORF1a/1001I(nsp3/183I)	G (V1)	V1,V2	2.2 (V2)
ORF1a/1188L(nsp3/370L)	G (V3)	V1,V3	2.5 (V1)
ORF1a/1655N(nsp3/837N)	G	V1,V2,V3	6.6 (V3)
ORF1a/1708D(nsp3/890D)	G	V1,V2,V3	15.8 (V2)
ORF1a/3676-(nsp6/107-)	G	V1,V2,V3	--
ORF1a/3829F(nsp6/260F)	G (V1)	V1,V2,V3	2.2 (V1)
ORF1b/970LS(Helicase/47LS)	(V3)	V1,V2,V3	2.2 (V1)
ORF1b/1522I(Helicase/599I)	G (V3)	V1,V2,V3	12.7(V2)
ORF1b/2020Y(Exonuc/496Y)	(V3)	V1,V2,V3	2.2 (V2)
S/18F	G(V3)	V1,V2,V3	1.1 (V2)
S/26LRS	G (V3)	V1,V2,V3	>13.0 (V2)
S/69-	G	V1,V2,V3	1.7 (V2)
S/98F	G (V1)	V1,V2,V3	>6.0 (V3)
S/138HY	G (V3)	V1,V2,V3	2.1 (V1)
S/144-	G	V1,V2,V3	2.3 (V2)
S/215GHVY	G (V2)	V1,V2	2.1 (V1)
S/243-	G	V1,V2,V3	<0.1 (V1,V3)
S/417NT	G (V2,V3)	V2,V3	<0.1 (V1)
S/484K	G	V1,V2,V3	3.7 (V1)
S/501Y	G (V1,V2,V3)	V1,V2,V3	--
S/655Y	G (V3)	V1,V2,V3	2.3 (V1)
S/681LRH	G (V1)	V1,V2,V3	21.0 (V3)
S/701V	G	V1,V2	2.4 (V1)
S/716I	G	V1,V2,V3	>13.5 (V3)
S/1027I	G (V3)	V2,V3	>44.0 (V2)
S/1118H	G	V1,V2,V3	>21.0 (V3)

S/1176F	G	V2,V3	19.5 (V2)
S/1264L	(V1)	V1,V2,V3	2.3 (V1)
ORF3a/57HLY	G	V1,V2,V3	2.8 (V3)
ORF3a/171L	G	V1,V2,V3	11.9 (V3)
E/71LRT		V1,V2	>10.0 (V1)
N/205I-	G	V1,V2,V3	3.0 (V1)
N/235FL	G (V1)	V1,V2,V3	>10.0 (V3)

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