

Phylogenetic analysis of influenza B Victoria lineage HA genes

22/23 vaccine strain in Japan

HI reference strain

January 2023

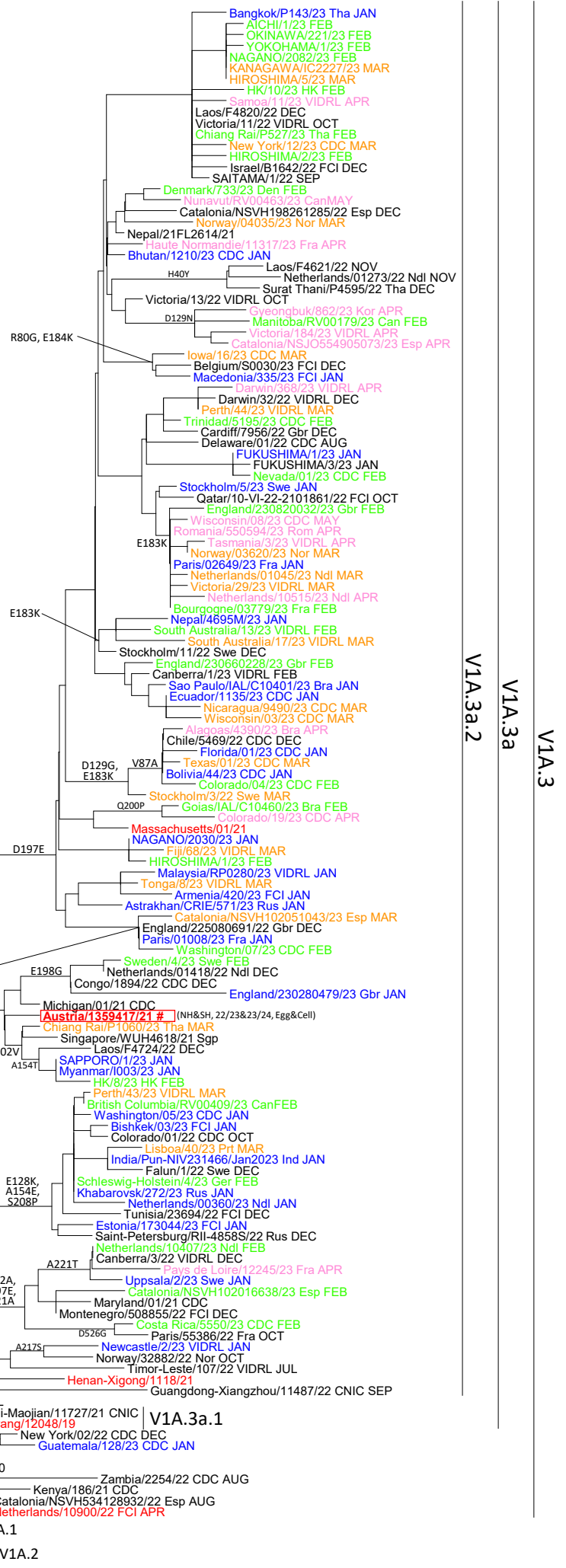
February 2023

March 2023

April and May 2023

#: WHO recommended vaccine strain (Northern/Southern hemisphere, season, egg/cell)

clade/subclade	AA substitution
V1A.3	K136E, (G133R), Δ162-164
V1A.3a	V1A.3 + N150K, G184E, N197D, R279K
V1A.3a.1	V1A.3a + V220M, P241Q
V1A.3a.2	V1A.3a + A127T, P144L, K203R



1117V, N129D
D129G, H180V, 2aa-del(162-163), R498K
3aa-del(162-164), K136E
N150K, G184E, N197D, R279K
A127T
Victoria/11/20 VIDRL
Hubei-Maojian/11727/21 CNIC
Sichuan-Jingyang/12048/19
G133R
Washington/02/19
YOKOHAMA/1/20
K75E, E128K, T155A
G230N
SAPPORO/18/20
Iowa/06/17
3aa-del(162-164), 1180T, K209N
FUKUJ/2/19
Brisbane/60/08

V1A.3a.1

V1A.1

V1A.2

V1A.3
V1A.3a
V1A.3a.2