

a. 2018-2019 (H1N1 HA Northern Hemisphere)

WHO: G V A P L H 70 G K C N I A G W I L G N P E C S L S T A S R S W S Y I V E T S N S D N G T C Y P G D F
DOM: G V A P L H L G K C N I A G W I L G N P E C S L S T A R R S W S Y I V E T S N S D N G T C Y P G D F
OUT: G V A P L H L G K C N I A G W I L G N P E C S L S T A R R S W S Y I V E T S N S D N G T C Y P G D F

RBD

The diagram illustrates the S protein structure with the RBD domain highlighted in blue. The mutations are indicated by red boxes: S at position 180, T at position 181, and P at position 200.

The diagram shows the sequence of the SARS-CoV-2 spike protein from residue 220 to 260. The RBD domain is indicated by a bracket above the sequence. The sequence is as follows:

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WHO: D A Y V F V G T S R Y S K K F K P E I A T R P K V R D Q E G R M N Y Y W T L V E P G D K I T F E A T
DOM: D A Y V F V G T S R Y S K K F K P E I A T R P K V R D Q E G R M N Y Y W T L V E P G D K I T F E A T

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b. 2019-2020 (H1N1 HA Northern Hemisphere)

WHO:	.62	.137	.207	.299	.315	315
DOM:	G	T	X	A	V	315
DNT:	R	A	S	P	-	315

WHO	:	62	G	T	X	A	V	315
DOM	:	137	R	A	S	P	I	315
ONT	:	207	R	T	N	P	-	315

C. 2018-2019 (H1N1 HA Northern Hemisphere)

The chart displays the WHO-DOQI classification system. The vertical axis on the left lists stages G1 through G5. The horizontal axis at the bottom categorizes patients into four groups: S (Stable), R (Renal), B (Bladder), and D (Dialysis). Each group has a corresponding color-coded bar: S is green, R is purple, B is red, and D is orange. The bars are stacked horizontally for each stage, with the total length of the bar representing the cumulative risk category for that stage.

WHO:	.91	.18	.200	.311	312
DOM:	S	S	S	I	312
ONT:	R	T	P	V	312

d. 2016-2017 (H1N1 HA Northern Hemisphere)

WHO:	A	P	S	D	S	K	P	S	T	S	I	A	K	V	E	S	P
DOM:	T	T	S	N	N	O	Q	P	S	T	T	T	E	V	K	Z	T
ONT:	T	S	N	Z	Z	N	Q	S	T	T	T	T	E	V	K	Z	T
	-13	100	101	114	179	180	200	202	220	233	273	300	338	391	468	516	516

e. 2014-2015 (H1N1 HA Southern Hemisphere)

WHO	L	P	S	D	F	K	P	S	T	A	K	I	E	S	E	516
DOM	L	P	S	Z	F	V	Q	S	T	T	E	V	K	Z	E	516
ONT	L	P	S	Z	V	K	O	S	T	T	E	V	K	Z	E	516

f. 2015-2016 (H3N2 HA Northern Hemisphere)

WHO:	L	I	A	S	G	N	S	K	O	R	D		505
DOM:	-	T	A	A	R	S	Y	T	H	K	N		505
ONT:	-	-	A	A	R	S	Y	T	H	K	Z		505

█	13.9	(C); Accessible sidechain area (Å ²)
█	23.0	(I); 23.5 (V); 25.2 (G)
█	28.7	(F); 29.0 (L); 30.5 (M); 31.5 (A)
█	41.7	(W); 44.2 (S); 46.0 (T); 46.7 (H)
█	53.7	(P)
█	59.1	(Y); 60.9 (D); 62.2 (N)
█	72.3	(E); 74.0 (Q)
█	93.8	(R)
█	110.3	(K)

- X acidic (-)
- X basic (+)
- X polar uncharged
- X hydrophobic nonpolar