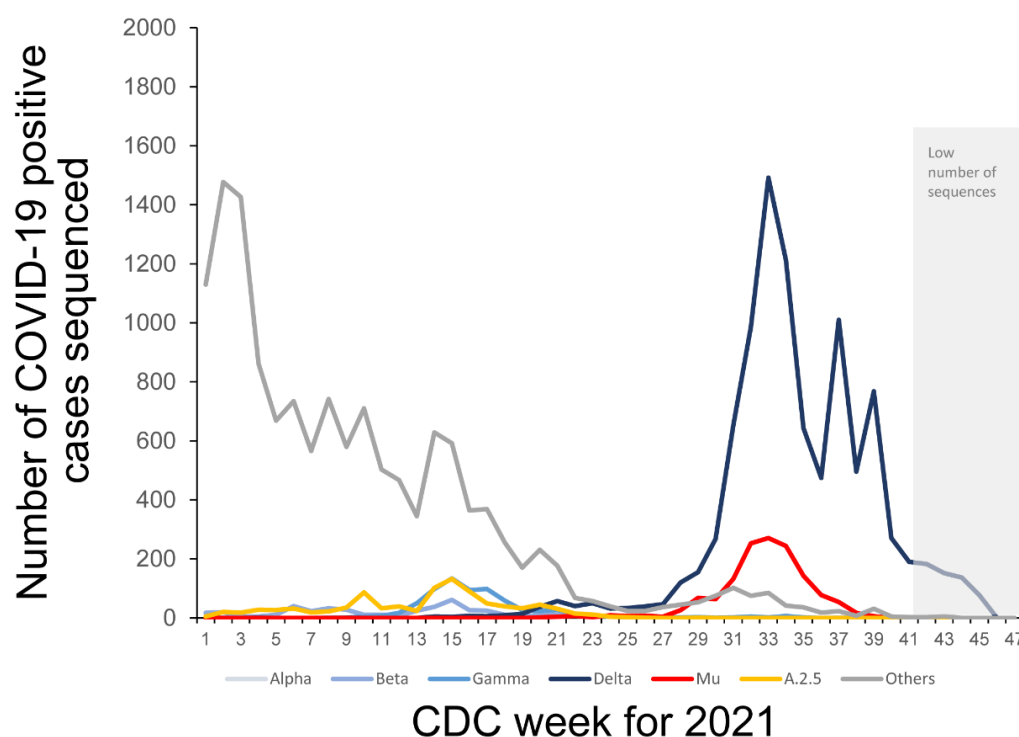


Supplementary Materials



**Figure S1.** Distribution of COVID-19 positive cases sequenced by CDC week for variants Alpha, Beta, Gamma, Delta, Mu, A.2.5 and others. The Mu variant was present in Québec from CDC week 27 (4<sup>th</sup> of July) to CDC week 42 (17<sup>th</sup> of October). The A.2.5 variant was present at low level from the beginning of 2021 to CDC week 29 (18<sup>th</sup> of July).

**Table S1.** Binding Kinetics of the interaction between SARS-CoV-2 RBD and sACE2 quantified by Biolayer Interferometry.

Ligands	Temperature	ACE2 binding (RBD/biolayer interferometry)		
		KD (nM)	Ka (1/Ms)	Kdis (1/s)
WT	10°C	57.19	2.68x10 <sup>4</sup>	1.53x10 <sup>-3</sup>
	25°C	162.6	4.72x10 <sup>4</sup>	7.68x10 <sup>-3</sup>
R346K	10°C	45.71	2.67x10 <sup>4</sup>	1.22x10 <sup>-3</sup>
	25°C	166.4	4.64x10 <sup>4</sup>	7.72x10 <sup>-3</sup>
K417N	10°C	120	5.09x10 <sup>4</sup>	6.11x10 <sup>-3</sup>
	25°C	264.2	6.45x10 <sup>4</sup>	1.70x10 <sup>-2</sup>
L452R	10°C	68.17	1.91x10 <sup>4</sup>	1.30x10 <sup>-3</sup>
	25°C	148.3	2.98x10 <sup>4</sup>	4.41x10 <sup>-3</sup>
E484K	10°C	56.39	2.99x10 <sup>4</sup>	1.69x10 <sup>-3</sup>
	25°C	146.8	5.58x10 <sup>4</sup>	8.18x10 <sup>-3</sup>
N501Y	10°C	11.47	2.91x10 <sup>4</sup>	3.33x10 <sup>-3</sup>
	25°C	35.45	4.42x10 <sup>4</sup>	1.57x10 <sup>-3</sup>

**Table S2.** Summary of ACE2 Binding, plasma binding, and neutralization to variants.

SARS CoV-2 Variants	ACE2 binding <sup>a</sup>	Spike recognition by plasma <sup>b</sup>		Neutralization (ID <sub>50</sub> ) <sup>c</sup>	
		Naïve vaccinated (3 week post vaccination of 2 <sup>nd</sup> dose)	Previously infected vaccinated (3 week post vaccination of 2 <sup>nd</sup> dose)	Naïve vaccinated (3 week post vaccination of 2 <sup>nd</sup> dose)	Previously infected vaccinated (3 week post vaccination of 2 <sup>nd</sup> dose)
D614G	1	1	1	1186.8 (1)	2668.2 (1)
B.1.351 ( <b>Beta</b> )	4.1	0.70	0.84	190.4 (0.16)	744.4 (0.27)
B.1.617.2 ( <b>Delta</b> )	2.32	0.58	0.58	325 (0.27)	374.2 (0.14)
B.1.621 ( <b>Mu</b> )	1.69	0.66	0.63	145.5 (0.12)	343.4 (0.12)
A.2.5	2.04	0.72	0.71	361.3 (0.30)	905 (0.33)

- a) ACE2-Fc binding was normalized to CV3-25 binding in each experiment. Values are presented as ratio of normalized ACE2-Fc binding obtain with the D614G Spike. Values represent the means of data obtained from at least three independent experiments.
- b) Plasma binding were normalized to CV3-25 in each experiment. Values are presented as ratio of normalized plasma binding obtained with the D614G Spike. Values represent the means of data obtained with 9-10 plasma from the same group.
- c) The ID<sub>50</sub> represents the plasma dilution to inhibit 50% of the infection of 293T-ACE2 cells by pseudo viruses bearing the indicated Spike. Values are presented as the means of ID<sub>50</sub> and in parenthesis as ratio of the ID<sub>50</sub> obtained with virus bearing the D614G Spike. Values represent the means of data obtained with 9-10 different plasma.