

SARS-CoV-2 Variants Are Detected By Norgen Biotek's COVID-19 TaqMan RT-PCR Kit (N/ORF1ab genes)

A variant analysis was completed for the following kits:

1. COVID-19 TaqMan RT-PCR Kit (N/ORF1ab genes) (TM67300)
2. COVID-19 TaqMan RT-PCR Kit (N/ORF1ab genes) Dx (DxTM67300)

The analysis illustrates that the designed primers and probes can target the new variants as of February 28, 2022 of SARS-CoV-2. The alignment scores for the COVID-19 TaqMan RT-PCR Kit (NIID genes/ORF1ab) to the variants can be seen in Table 1, which shows that the alignment of primers & probes is identical between variants as well as the initial SARS-CoV-2 Wuhan strain. This analysis can then conclude that all three kits have the same efficacy of detection to the new emerging variants.

Table 1: The variant alignment score for the COVID-19 TaqMan RT-PCR Kit (NIID genes/ORF1ab) primers and probes for NIID and ORF1ab gene.

Primer		Alignment Score							
		Variant/WHO Label/Lineage							
		England Variant EPI_ISL_581117	Brazil Variant EPI_ISL_792680	South Africa Variant EPI_ISL_678597	Nigerian Variant EPI_ISL_1168768	California Variant EPI_ISL_1335868	Indian Variant EPI_ISL_2832106	Omicron Variant EPI_ISL_6963510	SARS-CoV-2 isolate Wuhan-Hu-1 NC_045512.2
		Alpha/B.1.1.7	Gamma/P.1	Beta/B.1.351	Eta/B.1.525	Epsilon/B.1.429	Delta/B.1.617.2	Omicron/B.1.1.529	N/A
ORF1ab Gene	ORF1ab-F	100%	100%	100%	100%	100%	100%	100%	100%
	ORF1ab-R	100%	100%	100%	100%	100%	100%	100%	100%
	ORF1ab-P	100%	100%	100%	100%	100%	100%	100%	100%
N Gene	NIID_F	100%	100%	100%	100%	100%	100%	100%	100%
	NIID_R	95%	95%	95%	95%	95%	95%	95%	95%
	NIID_P	100%	100%	100%	100%	100%	100%	100%	100%

Norgen is closely monitoring upcoming variants on a monthly basis and we will notify our customers if any there are any changes in the capacity for detecting new variants.