

## 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 kit:

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

The analysis illustrates that the designed primers and probes can target the 3 new variants of SARS-CoV-2. The alignment scores for the COVID-19 TaqMan RT-PCR Kit (N/ORF1ab genes) to the variants can be seen in Table 1, which shows that the alignment of ORF1ab primers & probe is identical between variants as well as the initial SARS-CoV-2 Wuhan strain. For the N gene assay, the N\_Forward and probe align 100% to all variants and the SARS-CoV-2 Wuhan strain, however N\_Reverse aligns with 1 mismatch.

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

Primer		Alignment Score			
		England Variant EPI_ISL_581117	Brazil Variant EPI_ISL_792680	South Africa Variant EPI_ISL_678597	SARS-CoV-2 isolate Wuhan-Hu-1 NC_045512.2
ORF1ab Gene	ORF1ab_Forward	100%	100%	100%	100%
	ORF1ab_Reverse	100%	100%	100%	100%
	ORF1ab_Probe	100%	100%	100%	100%
N Gene	N_Forward	100%	100%	100%	100%
	N_Reverse	95%	95%	95%	95%
	N_Probe	100%	100%	100%	100%

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