

Detection of SARS-CoV-2 Variant Strains by Luminex Molecular Assays

As the SARS-CoV-2 virus continues to evolve, we know how important it is to be able to detect new variants across the world. With healthcare providers still managing the outbreak and scientists working to study the impact of each variant on transmissibility, morbidity, and vaccine effectiveness, it is imperative that molecular assays detect these variants.

The last in silico analysis compared the SARS-CoV-2-specific oligonucleotide (primer and probe) sequences in the Luminex assays to the sequences submitted to the GISAID EpiCoV database from February 1, 2022 to April 30, 2023. These analyses are summarized in the table below.

Detection of SARS-CoV-2 Variant Strains on Luminex Molecular Assays:

Assay Name	SARS-CoV-2 Gene Targets	Regulatory Status	Part Number(s)	Results
ARIES® SARS-CoV-2	ORF1ab/N	EUA, CE-IVD, and RUO	50-10047, 50-10051, 50-10048	100% inclusive of Omicron variants and subvariants through XBB.1.5 and XBB.1.16
NxTAG® CoV Extended Panel	ORF1ab/N/E	EUA and RUO	I054C463, X054C0462	
NxTAG® RPP + SARS-CoV-2	ORF1ab/M	EUA, CE-IVD, and RUO	I056C0468, I056C0471, X056C0470	
ARIES® Flu A/B & RSV+SARS-CoV-2	N and E	CE-IVD	50-10055	

Only sequences with full coverage of all oligo-binding regions were included in the analysis; partial sequences and sequences with ambiguous or degenerate bases in an oligo-binding region were excluded.

Based on these analyses, each of our currently available assays is expected to detect all of these Omicron subvariants, but it is important to note that we have not been able to test clinical samples for all these variants with our products. Biosurveillance of these variants will be performed once a quarter and variants of concern that aren't expected to be detected will be reported.

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