



## CERTIFICATE OF ANALYSIS

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**Product Description:** V-PLEX® SARS-CoV-2 Panel 11 Kit  
**Kit Catalog Numbers:** K15455-Series; K15456-Series; K15457-Series; K15458-Series; K15506-Series; K15507-Series; K15508-Series;  
**Kit Lot Number:** K0081819  
**Expiration Date:** 31 JUL 2023

### Kit Components:

Description	Lot Number	Storage Temperature	Expiration Date
SARS-CoV-2 Plate 11	Z0056983	2-8°C	30 NOV 2023
Reference Standard 1	A0080286	≤ -70°C	28 FEB 2026
Serology Control 1.1	A00C0771	≤ -70°C	28 FEB 2026
Serology Control 1.2	A00C0772	≤ -70°C	28 FEB 2026
Serology Control 1.3	A00C0773	≤ -70°C	28 FEB 2026
SULFO-TAG™ Human ACE2 Protein	D0081708	2-8°C	31 JUL 2023
ACE2 Calibration Reagent	A0080285	2-8°C	31 AUG 2024
SULFO-TAG™ Anti-Human IgG Antibody	D00V0009	2-8°C	31 JUL 2024
SULFO-TAG™ Anti-Human IgM Antibody	Not Kit Specific	2-8°C	See Label
SULFO-TAG™ Anti-Human IgA Antibody	Not Kit Specific	2-8°C	See Label
SULFO-TAG™ Anti-Mouse IgG Antibody	Not Kit Specific	2-8°C	See Label
SULFO-TAG™ Anti-Mouse IgM Antibody	Not Kit Specific	2-8°C	See Label
SULFO-TAG™ Anti-Mouse IgA Antibody	Not Kit Specific	2-8°C	See Label
Diluent 100	Not Kit Specific	2-8°C	See Label
MSD Blocker A Kit	Not Kit Specific	Room Temperature	See Label
MSD GOLD Read Buffer B	Not Kit Specific	Room Temperature	See Label

See product insert regarding which components are provided with each IgG, IgA, IgM, or ACE2 kit.

### Plate Uniformity Testing Results:

Parameter	Precision			Uniformity	Signal
	CV of Intra-plate Averages	Avg Intra-plate CV	Max Intra-plate CV	Average Uniformity Metric	Average Signal
SARS-CoV-2 S1 RBD (L452R)	≤ 18%	≤ 10%	≤ 13%	Pass	1,500 – 1,000,000
SARS-CoV-2 S1 RBD (K417N, E484K, N501Y)	≤ 25%	≤ 15%	>18%	Fail	1,500 – 1,000,000
SARS-CoV-2 S1 RBD (E484K)	≤ 18%	≤ 10%	≤ 13%	Pass	1,500 – 1,000,000
SARS-CoV-2 S1 RBD (K417T, E484K, N501Y)	≤ 18%	≤ 10%	≤ 13%	Pass	1,500 – 1,000,000
SARS-CoV-2 S1 RBD (S477N)	≤ 18%	≤ 10%	≤ 13%	Pass	1,500 – 1,000,000
SARS-CoV-2 S1 RBD (N501Y)	≤ 18%	≤ 10%	≤ 13%	Pass	1,500 – 1,000,000
SARS-CoV-2 S1 RBD (E484K, N501Y)	≤ 18%	> 10%	> 13%	Fail	1,500 – 1,000,000
SARS-CoV-2 S1 RBD (L452R, E484Q)	≤ 18%	≤ 10%	≤ 13%	Pass	1,500 – 1,000,000
SARS-CoV-2 S1 RBD (L452R, T478K)	≤ 18%	≤ 10%	≤ 13%	Pass	1,500 – 1,000,000
SARS-CoV-2 S1 RBD	≤ 18%	≤ 10%	≤ 13%	Pass	1,500 – 1,000,000

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### Coating Confirmation Testing Results:

Spot	Description	Result
1	SARS-CoV-2 S1 RBD (L452R)	Pass
2	SARS-CoV-2 S1 RBD (K417N, E484K, N501Y)	Fail
3	SARS-CoV-2 S1 RBD (E484K)	Pass
4	SARS-CoV-2 S1 RBD (K417T, E484K, N501Y)	Pass
5	SARS-CoV-2 S1 RBD (S477N)	Pass
6	SARS-CoV-2 S1 RBD (N501Y)	Pass
7	SARS-CoV-2 S1 RBD (E484K, N501Y)	Pass
8	SARS-CoV-2 S1 RBD (L452R, E484Q)	Pass
9	SARS-CoV-2 S1 RBD (L452R, T478K)	Pass
10	SARS-CoV-2 S1 RBD	Pass

**RBD** indicates SARS-CoV-2 Receptor Binding Domain with mutation(s) listed.

### Functional Testing Results:

Sample Type	Calibrator	Controls		Samples	
Metric	Average Signal Ratio Test:Reference	Control Recovery	Control Conc. CV	Aveg % Difference Test:Reference	Slope Test:Reference
SARS-CoV-2 S1 RBD (L452R)	50 – 200%	70 – 130%	< 20%	± 25%	0.80 – 1.2
SARS-CoV-2 S1 RBD (K417N, E484K, N501Y)	50 – 200%	70 – 130%	< 20%	± 25%	0.80 – 1.2
SARS-CoV-2 S1 RBD (E484K)	50 – 200%	70 – 130%	< 20%	± 25%	0.80 – 1.2
SARS-CoV-2 S1 RBD (K417T, E484K, N501Y)	50 – 200%	70 – 130%	< 20%	± 25%	0.80 – 1.2
SARS-CoV-2 S1 RBD (S477N)	50 – 200%	70 – 130%	< 20%	± 25%	0.80 – 1.2
SARS-CoV-2 S1 RBD (N501Y)	50 – 200%	70 – 130%	< 20%	± 25%	0.80 – 1.2
SARS-CoV-2 S1 RBD (E484K, N501Y)	50 – 200%	70 – 130%	< 20%	± 25%	0.80 – 1.2
SARS-CoV-2 S1 RBD (L452R, E484Q)	50 – 200%	70 – 130%	< 20%	± 25%	0.80 – 1.2
SARS-CoV-2 S1 RBD (L452R, T478K)	50 – 200%	70 – 130%	< 20%	± 25%	0.80 – 1.2
SARS-CoV-2 S1 RBD	50 – 200%	70 – 130%	< 20%	± 25%	0.80 – 1.2

### Additional Comments:

Functional testing was executed using SARS-CoV-2 Plate 11 (Z0056983), SULFO-TAG Anti-Human IgG Antibody (D00V0002), Reference Standard 1 (A0080286), and Serology Controls (A00C0771, A00C0772, A00C0773).

All kit components were manufactured and tested according to MSD documents. The lots listed in the Kit Components table meet MSD's specifications.

### Statement:

The above product is intended for Research Use Only. Not for use in Diagnostic Procedures.

	Name	Function	Signature	Date
Review/Approval	Karen Hamilla	Quality		28 DEC 2021