

**CERTIFICATE OF ANALYSIS**

**Product Description:** V-PLEX® and V-PLEX Plus Cytokine Panel 1 (human) Kit  
**Lot Number:** K0082556  
**Expiration Date:** 30 SEP 2026  
**Catalog Number:** K15050-Series, K151RC-Series, K156RC-Series, K156RE-Series, K151RE-Series, K151RG-Series, K156RG-Series, K15057-Series

**Lot-Specific Components:**

Description	Lot Number	Storage Temperature	Expiration Date
Anti-hu GM-CSF Antibody	D0082095	2-8°C	31 DEC 2026
Anti-hu IL-12/23p40 Antibody	D0082282	2-8°C	30 NOV 2027
Anti-hu IL-15 Antibody	D0082181	2-8°C	30 JUN 2027
Anti-hu IL-16 Antibody	D0082182	2-8°C	30 JUN 2027
Anti-hu IL-17A Antibody	D0082284	2-8°C	30 NOV 2027
Anti-hu IL-1 $\alpha$ Antibody	D0082096	2-8°C	31 DEC 2026
Anti-hu IL-5 Antibody	D0082281	2-8°C	30 NOV 2027
Anti-hu IL-7 Antibody	D0082220	2-8°C	31 AUG 2027
Anti-hu TNF- $\beta$ Antibody	D0082221	2-8°C	31 AUG 2027
Anti-hu VEGF Antibody	D0082285	2-8°C	30 NOV 2027
Cytokine Panel 1 (human) 96-Well 10-Spot SECTOR Plate	Z0048025	2-8°C	28 FEB 2027
Cytokine Panel 1 (human) Calibrator Blend	A0080383	2-8°C	31 DEC 2028
Diluent 3	M0030129	$\leq$ -10°C	30 NOV 2026
Diluent 43	M0430056	$\leq$ -10°C	30 SEP 2026

Additional components may be provided to execute the assay. Additional components are not lot-specific.

**Precision, Accuracy, and Sensitivity Specifications:**

Spot	Name	Calibrator		Cytokine Panel 1 (human) Control 1		Cytokine Panel 1 (human) Control 2		Cytokine Panel 1 (human) Control 3	
		Recovery	CV	Recovery	CV	Recovery	CV	Recovery	CV
1	GM-CSF	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
2	IL-1 $\alpha$	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
3	IL-5	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
4	IL-7	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
5	IL-12/IL-23p40	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
6	IL-15	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
7	IL-16	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
8	IL-17A	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
9	TNF- $\beta$	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
10	VEGF-A	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%



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Spot	Name	LLOQ			ULOQ		
		Value	Recovery	CV	Value	Recovery	CV
1	GM-CSF	0.842	80% - 120%	< 20%	750	80% - 120%	< 20%
2	IL-1 $\alpha$	2.85	80% - 120%	< 20%	278	80% - 120%	< 20%
3	IL-5	4.41	80% - 120%	< 20%	562	80% - 120%	< 20%
4	IL-7	0.851	80% - 120%	< 20%	563	80% - 120%	< 20%
5	IL-12/IL-23p40	1.32	80% - 120%	< 20%	2250	80% - 120%	< 20%
6	IL-15	0.774	80% - 120%	< 20%	525	80% - 120%	< 20%
7	IL-16	19.1	80% - 120%	< 20%	1870	80% - 120%	< 20%
8	IL-17A	3.19	80% - 120%	< 20%	3650	80% - 120%	< 20%
9	TNF- $\beta$	0.465	80% - 120%	< 20%	458	80% - 120%	< 20%
10	VEGF-A	7.7	80% - 120%	< 20%	562	80% - 120%	< 20%

## Non-Specific Binding Specifications:

Spot	Name	Spec
1	GM-CSF	< 1.0%
2	IL-1 $\alpha$	< 1.0%
3	IL-5	< 1.0%
4	IL-7	< 1.0%
5	IL-12/IL-23p40	< 1.0%
6	IL-15	< 1.0%
7	IL-16	< 1.0%
8	IL-17A	< 1.0%
9	TNF- $\beta$	< 1.0%
10	VEGF-A	< 1.0%

## Stock Concentration of Calibrator:

Spot	Name	Conc.	Units
1	GM-CSF	1110	pg/mL
2	IL-1 $\alpha$	412	pg/mL
3	IL-5	826	pg/mL
4	IL-7	887	pg/mL
5	IL-12/IL-23p40	3460	pg/mL
6	IL-15	850	pg/mL
7	IL-16	2360	pg/mL
8	IL-17A	6490	pg/mL
9	TNF- $\beta$	721	pg/mL
10	VEGF-A	1820	pg/mL

Dilution to top of Curve: 1X

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

	Name	Function	Signature	Date
<b>Review/Approval</b>	Karen Hamilla	Quality		09 DEC 2024