

**CERTIFICATE OF ANALYSIS****Product Description:** V-PLEX and V-PLEX Plus Cytokine Panel 1 (human) Kit**Lot Number:** K0082878**Expiration Date:** 30 JUN 2027**Catalog Number:** K15050-Series, K151RC-Series, K151RE-Series, K15057-Series, K156RC-Series, K151RG-Series, K156RG-Series, K156RE-Series**Lot-Specific Components:**

The kit expiration date provided in the COA is determined by the component with the earliest expiration date. As the kit is supplied with different catalog products, not all configurations include all the components. In such cases, the applicable expiration date is determined by the shortest expiry among the components included in the kit that is received.

Description	Lot Number	Storage Temperature	Expiration Date
Anti-hu GM-CSF Antibody	D0082343	2-8°C	29 FEB 2028
Anti-hu IL-12/23p40 Antibody	D0082347	2-8°C	29 FEB 2028
Anti-hu IL-15 Antibody	D0082348	2-8°C	29 FEB 2028
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	D0082344	2-8°C	29 FEB 2028
Anti-hu IL-5 Antibody	D0082345	2-8°C	29 FEB 2028
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	D0082352	2-8°C	30 APR 2028
Cytokine Panel 1 (human) 96-Well 10-Spot SECTOR Plate	Z0048218	2-8°C	30 JUN 2028
Cytokine Panel 1 (human) Calibrator Blend	A0080435	2-8°C	31 MAY 2030
Diluent 3	M0030144	$\leq -10^{\circ}\text{C}$	31 JAN 2028
Diluent 43	M0430059	$\leq -10^{\circ}\text{C}$	30 SEP 2027

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	7.70	80% - 120%	< 20%	562	80% - 120%	< 20%

**Non-Specific Binding Specifications:**

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

Spot	Name	IL-17A	TNF- $\beta$	VEGF-A
1	GM-CSF	< 1.0%	< 1.0%	< 1.0%
2	IL-1 $\alpha$	< 1.0%	< 1.0%	< 1.0%
3	IL-5	< 1.0%	< 1.0%	< 1.0%
4	IL-7	< 1.0%	< 1.0%	< 1.0%
5	IL-12/IL-23p40	< 3.0%	< 1.0%	< 1.0%
6	IL-15	< 1.0%	< 1.0%	< 1.0%
7	IL-16	< 1.0%	< 1.0%	< 1.0%
8	IL-17A	NA	< 1.0%	< 1.0%
9	TNF- $\beta$	< 1.0%	NA	< 1.0%
10	VEGF-A	< 1.0%	< 1.0%	NA



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**Stock Concentration of Calibrator:**

Spot	Name	Conc.	Units
1	GM-CSF	966	pg/mL
2	IL-1 $\alpha$	435	pg/mL
3	IL-5	881	pg/mL
4	IL-7	878	pg/mL
5	IL-12/IL-23p40	3570	pg/mL
6	IL-15	889	pg/mL
7	IL-16	2560	pg/mL
8	IL-17A	5800	pg/mL
9	TNF- $\beta$	677	pg/mL
10	VEGF-A	1120	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>	Michelle Likiam	Quality		24 MAR 2026