

**CERTIFICATE OF ANALYSIS**

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**Product Description:** V-PLEX® and V-PLEX Plus Cytokine Panel 1 (human) Kit  
**Kit Lot Number:** K0081515  
**Expiration Date:** 31 Oct 2022  
**Kit Catalog Numbers:** K15050-Series, K15057-Series, K151RC-Series, K151RG-Series, K156RG-Series, K156RC-Series, K151RE-Series, K156RE-Series

**Precision and Accuracy 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	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%

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	0.546	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	7.70	80% - 120%	< 20%	562	80% - 120%	< 20%

**Non-Specific Binding Specifications:**

Spot	Name	NSB 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	< 1.0%

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### Stock Concentration of Calibrator:


Spot	Name	Conc.	Units
1	GM-CSF	1260	pg/mL
2	IL-1 $\alpha$	320	pg/mL
3	IL-5	857	pg/mL
4	IL-7	807	pg/mL
5	IL-12/IL-23p40	3380	pg/mL
6	IL-15	941	pg/mL
7	IL-16	2910	pg/mL
8	IL-17A	6040	pg/mL
9	TNF- $\beta$	623	pg/mL
10	VEGF	1350	pg/mL

### Lot-Specific Components:

Description	Lot Number	Storage Temperature	Expiration Date
Cytokine Panel 1 (human) Plate	Z0047363	2-8°C	31 Dec 2022
Anti-hu GM-CSF Antibody	D0081414	2-8°C	30 Jun 2023
Anti-hu IL-1 $\alpha$ Antibody	D0081482	2-8°C	31 Dec 2023
Anti-hu IL-5 Antibody	D0081416	2-8°C	30 Apr 2023
Anti-hu IL-7 Antibody	D0081483	2-8°C	31 Aug 2023
Anti-hu IL-12/23p40 Antibody	D0081418	2-8°C	30 Apr 2023
Anti-hu IL-15 Antibody	D0081484	2-8°C	31 Oct 2023
Anti-hu IL-16 Antibody	D0081485	2-8°C	29 Feb 2024
Anti-hu IL-17A Antibody	D0081531	2-8°C	31 Dec 2023
Anti-hu TNF- $\beta$ Antibody	D0081421	2-8°C	30 Apr 2023
Anti-hu VEGF Antibody	D0081393	2-8°C	30 Apr 2023
Cytokine Panel 1 (human) Calibrator Blend	A0080240	2-8°C	30 Nov 2024
Diluent 43	M0430040	$\leq -10^\circ\text{C}$	30 Nov 2022
Diluent 3	M0030100	$\leq -10^\circ\text{C}$	31 Oct 2022

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

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

	Name	Function	Signature	Date
Review/Approval	Karen Hamilla	Quality		10 NOV 2020