



## CERTIFICATE OF ANALYSIS

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COA-05217
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**Product Description:** Proinflammatory Panel 1 (human) Kit V-PLEX™ and V-PLEX Plus  
**Kit Catalog Numbers:** K15049D-1, K15049D-2, K15049D-4, K15049G-1, K15049G-2, K15049G-4  
**Kit Lot Number:** K0080277  
**Expiration Date:** 30 APR 2016

**Acceptance Data:**

			Assay				
Metric		Specifications	hu IFN- $\gamma$	hu IL-1 $\beta$	hu IL-2	hu IL-4	hu IL-6
% Recovery Concentration	Calibrators	80% - 120%	Pass	Pass	Pass	Pass	Pass
	Controls	80% - 120%	Pass	Pass	Pass	Pass	Pass
	ULOQ	80% - 120%	Pass	Pass	Pass	Pass	Pass
	LLOQ	80% - 120%	Pass	Pass	Pass	Pass	Pass
% Recovery CV	Calibrators	< 20%	Pass	Pass	Pass	Pass	Pass
	Controls	< 20%	Pass	Pass	Pass	Pass	Pass
	ULOQ	< 20%	Pass	Pass	Pass	Pass	Pass
	LLOQ	< 20%	Pass	Pass	Pass	Pass	Pass
Non-specific binding		< 1%	Pass	Pass	Pass	Pass	Pass

			Assay				
Metric		Specifications	hu IL-8	hu IL-10	hu IL-12p70	hu IL-13	hu TNF- $\alpha$
% Recovery Concentration	Calibrators	80% - 120%	Pass	Pass	Pass	Pass	Pass
	Controls	80% - 120%	Pass	Pass	Pass	Pass	Pass
	ULOQ	80% - 120%	Pass	Pass	Pass	Pass	Pass
	LLOQ	80% - 120%	Pass	Pass	Pass	Pass	Pass
% Recovery CV	Calibrators	< 20%	Pass	Pass	Pass	Pass	Pass
	Controls	< 20%	Pass	Pass	Pass	Pass	Pass
	ULOQ	< 20%	Pass	Pass	Pass	Pass	Pass
	LLOQ	< 20%	Pass	Pass	Pass	Pass	Pass
Non-specific binding		< 1%	Pass	Pass	Pass	Pass	Pass

**Concentration of Materials Tested:**

Units = pg/mL	Assay									
	hu IFN- $\gamma$	hu IL-1 $\beta$	hu IL-2	hu IL-4	hu IL-6	hu IL-8	hu IL-10	hu IL-12p70	hu IL-13	hu TNF- $\alpha$
Reconstituted Calibrator	1510	520	1460	207	749	546	313	404	489	311
Reconstituted Control 1 (A00C0273)	345	129	195	56.5	128	129	95.8	122	146	51.4
Reconstituted Control 2 (A00C0274)	123	52.2	77.6	17.5	58.3	37.6	24.7	33.7	53.4	16.0
Reconstituted Control 3 (A00C0293)	37.9	8.62	2.96	2.59	8.27	5.19	3.69	4.75	18.6	1.76
ULOQ	1200	415	1160	165	597	435	250	322	390	248
LLOQ	3.13	0.317	0.890	0.126	0.457	0.333	0.191	0.836	1.48	0.644



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## Standard Curve Data from Kit QC:

hu IFN- $\gamma$		
Conc., (pg/mL)	Average Signal	%CV
1510	352 665	2.3
378	95 509	2.1
94.4	23 245	2.2
23.6	5819	2.8
5.90	1554	2.7
1.47	563	5.1
0.369	292	9.4
0	211	11.4

hu IL-1 $\beta$		
Conc., (pg/mL)	Average Signal	%CV
520	1 701 581	2.7
130	410 770	3.1
32.5	96 679	2.6
8.13	23 550	3.6
2.03	6413	4.0
0.508	2044	3.0
0.127	992	5.7
0	591	6.8

hu IL-2		
Conc., (pg/mL)	Average Signal	%CV
1460	1 182 008	2.4
365	328 911	2.4
91.3	82 777	2.4
22.8	20 367	3.1
5.70	5565	3.2
1.43	1609	3.4
0.356	651	5.1
0	320	8.8

hu IL-4		
Conc., (pg/mL)	Average Signal	%CV
207	624 200	2.5
51.8	172 928	7.3
12.9	45 152	4.3
3.23	11 161	5.7
0.809	2678	7.9
0.202	769	8.9
0.051	297	9.9
0	128	27.4

hu IL-6		
Conc., (pg/mL)	Average Signal	%CV
749	1 329 078	2.6
187	294 704	3.9
46.8	61 533	3.1
11.7	13 880	4.5
2.93	3569	3.4
0.731	1030	4.3
0.183	399	6.3
0	182	10.2

hu IL-8		
Conc., (pg/mL)	Average Signal	%CV
546	665 294	2.4
137	166 238	2.3
34.1	39 583	2.8
8.53	9263	3.9
2.13	2591	2.7
0.533	753	4.1
0.133	323	7.9
0	172	11.2

hu IL-10		
Conc., (pg/mL)	Average Signal	%CV
313	609 040	1.6
78.3	171 183	1.9
19.6	42 219	2.6
4.89	10 403	2.5
1.22	2844	2.7
0.306	854	5.1
0.076	393	7.6
0	232	12.0

hu IL-12p70		
Conc., (pg/mL)	Average Signal	%CV
404	253 607	4.9
101	73 465	4.7
25.3	18 693	4.1
6.31	4691	5.3
1.58	1236	5.9
0.395	446	8.4
0.099	244	20.2
0	194	23.5

hu IL-13		
Conc., (pg/mL)	Average Signal	%CV
489	957 701	2.3
122	202 049	3.5
30.6	26 205	2.7
7.64	3242	3.2
1.91	786	4.5
0.478	323	8.2
0.119	229	10.4
0	193	9.7

hu TNF- $\alpha$		
Conc., (pg/mL)	Average Signal	%CV
311	395 371	2.8
77.8	92 507	2.9
19.4	21 667	4.0
4.86	5140	4.6
1.21	1441	5.2
0.304	454	8.1
0.076	230	11.6
0	157	23.3



### CERTIFICATE OF ANALYSIS

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<b>Proinflammatory Panel 1 (human) Kit V-PLEX Components</b>			
<b>Description</b>	<b>Lot Number</b>	<b>Storage Temperature</b>	<b>Expiration Date</b>
Proinflammatory Panel 1 (human) Plate	Z0045582	2-8°C	30 JUN 2017
Anti-hu IFN- $\gamma$ Antibody	D0080493	2-8°C	30 JUN 2017
Anti-hu IL-1 $\beta$ Antibody	D0080358	2-8°C	30 NOV 2016
Anti-hu IL-2 Antibody	D0080381	2-8°C	31 MAR 2017
Anti-hu IL-4 Antibody	D0080360	2-8°C	30 NOV 2016
Anti-hu IL-6 Antibody	D0080499	2-8°C	30 JUN 2017
Anti-hu IL-8 Antibody	D0080496	2-8°C	30 JUN 2017
Anti-hu IL-10 Antibody	D0080382	2-8°C	31 MAR 2017
Anti-hu IL-12p70 Antibody	D0080364	2-8°C	30 NOV 2016
Anti-hu IL-13 Antibody	D0080248	2-8°C	30 APR 2016
Anti-hu TNF- $\alpha$ Antibody	D0080502	2-8°C	31 JUL 2017
Proinflammatory Panel 1 (human) Calibrator Blend	A0080045	2-8°C	30 NOV 2019
Diluent 2	M0020085	$\leq -10^{\circ}\text{C}$	31 JAN 2017
Diluent 3	M0030062	$\leq -10^{\circ}\text{C}$	31 OCT 2016
MSD Read Buffer T (4X)	Not Kit Specific	Room Temperature	N/A
<b>Additional Components Included in V-PLEX Plus</b>			
Wash Buffer (20X), 100 mL	Not Kit Specific	Room Temperature	N/A
Plate Seals	Not Kit Specific	Room Temperature	N/A
Proinflammatory Panel 1 (human) Control 1	Not Kit Specific; See Separate Control Pack COA		
Proinflammatory Panel 1 (human) Control 2			
Proinflammatory Panel 1 (human) Control 3			

**Statement:** The above kit lot was tested using MSD procedures and it conforms to MSD's specifications. The above product is intended for Research Use Only. Not for use in Diagnostic Procedures.

	<b>Name</b>	<b>Function</b>	<b>Signature</b>	<b>Date</b>
<b>Review/Approval</b>	Dana Short	Quality Control		12 FEB 2015