Meso Scale Diagnostics, LLC.

CERTIFICATE OF ANALYSIS

Product Description: V-PLEX® and V-PLEX Plus Proinflammatory Panel 1 (mouse) Kit

Kit Catalog Numbers: K15048-Series; K152QR-Series; K152QS-Series; K152QT-Series; K152QU-Series; K152QV-Series

Kit Lot Number: K0081558

Expiration Date: 31 Dec 2022

Acceptance Data/ Percent Recovery Specifications:

		Calibrator		Proinflammatory Panel 1 (mouse) Control 1		Proinflammatory Panel 1 (mouse) Control 2		Proinflammatory Panel 1 (mouse) Control 3	
Spot	Name	Recovery	CV	Recovery	CV	Recovery	CV	Recovery	CV
1	IFN-γ	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%
2	IL-1β	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%
4	IL-4	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%
5	IL-5	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%
6	IL-6	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%
7	KC/GRO	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%
8	IL-10	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%
9	IL-12p70	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%
10	TNF-α	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%

		LLOQ			ULOQ		
Spot	Name	Value	Recovery	CV	Value	Recovery	CV
1	IFN-γ	0.390	75% - 125%	< 25%	570	75% - 125%	< 25%
2	IL-1β	0.720	75% - 125%	< 25%	1030	75% - 125%	< 25%
4	IL-4	0.818	75% - 125%	< 25%	1060	75% - 125%	< 25%
5	IL-5	0.302	75% - 125%	< 25%	590	75% - 125%	< 25%
6	IL-6	7.61	75% - 125%	< 25%	3140	75% - 125%	< 25%
7	KC/GRO	3.29	75% - 125%	< 25%	1230	75% - 125%	< 25%
8	IL-10	7.26	75% - 125%	< 25%	2030	75% - 125%	< 25%
9	IL-12p70	179	75% - 125%	< 25%	20600	75% - 125%	< 25%
10	TNF-α	0.980	75% - 125%	< 25%	403	75% - 125%	< 25%

Acceptance Data/ Non Specific Binding Specifications:

Spot	Name	NSB Spec
1	IFN-γ	< 1.0%
2	IL-1β	< 1.0%
4	IL-4	< 1.0%
5	IL-5	< 1.0%
6	IL-6	< 1.0%
7	KC/GRO	< 1.0%
8	IL-10	< 1.0%
9	IL-12p70	< 1.0%
10	TNF-α	< 1.0%

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Stock Concentration of Material Tested :

Spot	Name	Item	Conc	Units
1	IFN-γ	Calibrator	764	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	469	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	32	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	2.12	pg/mL
2	IL-1β	Calibrator	1530	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	722	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	52	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	4.32	pg/mL
4	IL-4	Calibrator	1790	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	479	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	62.1	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	14.5	pg/mL
5	IL-5	Calibrator	994	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	356	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	54.2	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	8.3	pg/mL
6	IL-6	Calibrator	5240	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	990	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	152	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	28.9	pg/mL
7	KC/GRO	Calibrator	2020	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	709	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	119	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	17.3	pg/mL
8	IL-10	Calibrator	3540	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	1100	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	331	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	124	pg/mL
9	IL-12p70	Calibrator	32500	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	14400	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	3710	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	822	pg/mL
10	TNF-α	Calibrator	639	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	158	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	28.1	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	4.46	pg/mL

Controls tested may not be the same lot as shipped.

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Standard Curve Data:

IFN-γ - Spot 1		
Conc. pg/mL	ECL Signal	%CV
764	1,330,000	2.3
191	393,000	2.7
47.8	97,800	2.7
11.9	24,400	3.5
2.98	6,640	2.7
0.746	1,820	2.2
0.187	570	6.0
0.00	127	21.0

IL-1β - Spot 2		
Conc. pg/mL	ECL Signal	%CV
1530	483,000	7.5
383	141,000	8.0
95.6	37,200	6.6
23.9	9,460	6.6
5.98	2,690	4.4
1.49	945	8.1
0.374	504	7.9
0.00	341	9.2

IL-4 - Spot 4		
Conc. pg/mL	ECL Signal	%CV
1790	1,060,000	2.6
448	309,000	3.4
112	80,000	3.8
28.0	21,100	4.8
6.99	5,890	4.7
1.75	1,910	4.8
0.437	757	5.0
0.00	403	11.0

IL-5 - Spot 5		
Conc. pg/mL	ECL Signal	%CV
994	1,300,000	3.4
249	300,000	2.1
62.1	65,800	3.5
15.5	15,900	3.8
3.88	4,530	2.4
0.971	1,340	2.1
0.243	522	4.6
0.00	250	7.8

IL-6 - Spot 6		
Conc. pg/mL	ECL Signal	%CV
5240	691,000	1.9
1310	164,000	2.1
328	39,100	2.1
81.9	9,920	2.5
20.5	2,820	1.8
5.12	915	2.7
1.28	417	4.6
0.00	261	8.2

KC/GRO - Spot 7		
Conc. pg/mL	ECL Signal	%CV
2020	1,870,000	2.2
505	426,000	3.3
126	88,300	2.8
31.6	19,600	2.4
7.89	5,110	2.4
1.97	1,340	11.0
0.493	455	7.8
0.00	143	21.0

IL-10 - Spot 8		
Conc. pg/mL	ECL Signal	%CV
3540	787,000	5.5
885	188,000	4.6
221	44,000	4.9
55.3	11,000	5.6
13.8	3,530	4.9
3.46	1,490	6.9
0.864	939	8.1
0.00	675	13.0

IL-12p70 - Spot 9		
Conc. pg/mL	ECL Signal	%CV
32500	1,220,000	2.2
8130	287,000	2.0
2030	51,000	2.1
508	9,770	2.8
127	2,600	1.7
31.7	852	2.7
7.93	437	13.0
0.00	262	6.7

TNF-α - Spot 10		
Conc. pg/mL	ECL Signal	%CV
639	481,000	2.7
160	125,000	1.5
39.9	30,500	2.4
9.98	7,690	4.2
2.50	2,200	2.2
0.624	722	3.5
0.156	350	6.8
0.00	219	8.6

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Components:

Description	Lot Number	Storage Temperature	Expiration Date
Proinflammatory Panel 1 (mouse) Plate	Z0047399	2-8°C	31 Jan 2023
Anti-ms IFN-γ Antibody	D0081487	2-8°C	31 Oct 2023
Anti-ms IL-1β Antibody	D0081439	2-8°C	30 Jun 2023
Anti-ms IL-4 Antibody	D0081441	2-8°C	30 Jun 2023
Anti-ms IL-5 Antibody	D0081488	2-8°C	31 Jan 2024
Anti-ms IL-6 Antibody	D0081443	2-8°C	31 Jul 2023
Anti-ms KC/GRO Antibody	D0081444	2-8°C	30 Jun 2023
Anti-ms IL-10 Antibody	D0081445	2-8°C	31 Jan 2024
Anti-ms IL-12p70 Antibody	D0081446	2-8°C	31 Aug 2023
Anti-ms TNF-α Antibody	D0081489	2-8°C	30 Sep 2023
Proinflammatory Panel 1 (mouse) Calibrator Blend	A0080264	2-8°C	31 Jul 2025
Diluent 41	M0410034	≤ -10°C	31 Dec 2022
Diluent 45	M0450035	≤ -10°C	31 Jan 2023
MSD Read Buffer T	Not Kit Specific	Not Kit Specific	N/A

Additional Components Included in V-PLEX Plus	
Plate Seals	Not Kit Specific
Wash Buffer (20X), 100mL	Not Kit Specific
Proinflammatory Panel 1 (mouse) Control 1	Not Kit Specific
Proinflammatory Panel 1 (mouse) Control 2	Not Kit Specific
Proinflammatory Panel 1 (mouse) Control 3	Not Kit Specific

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		23 OCT 2020