

CERTIFICATE OF ANALYSIS

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Product Description: V-PLEX® and V-PLEX Plus Proinflammatory Panel 1 (human) Kit
Kit Catalog Numbers: K151QR-Series; K151OD-Series; K15049-Series; K15052-Series; K15053-Series; K15056-Series
Kit Lot Number: K0081327
Expiration Date: 30 Jun 2021

Acceptance Data/ Percent Recovery Specifications:

| Spot | Name | Calibrator | | Proinflammatory Panel 1 (human) Control 1 | | Proinflammatory Panel 1 (human) Control 2 | | Proinflammatory Panel 1 (human) Control 3 | |
|------|---------------|------------|-------|---|-------|---|-------|---|-------|
| | | Recovery | CV | Recovery | CV | Recovery | CV | Recovery | CV |
| 1 | IFN- γ | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% |
| 2 | IL-1 β | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% |
| 3 | IL-2 | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% |
| 4 | IL-4 | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% |
| 5 | IL-6 | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% |
| 6 | IL-8 | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% |
| 7 | IL-10 | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% |
| 8 | IL-12p70 | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% |
| 9 | IL-13 | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% |
| 10 | TNF- α | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% |

| Spot | Name | LLOQ | | | ULOQ | | |
|------|---------------|-------|------------|-------|-------|------------|-------|
| | | Value | Recovery | CV | Value | Recovery | CV |
| 1 | IFN- γ | 1.76 | 80% - 120% | < 20% | 938 | 80% - 120% | < 20% |
| 2 | IL-1 β | 0.646 | 80% - 120% | < 20% | 375 | 80% - 120% | < 20% |
| 3 | IL-2 | 0.890 | 80% - 120% | < 20% | 938 | 80% - 120% | < 20% |
| 4 | IL-4 | 0.218 | 80% - 120% | < 20% | 158 | 80% - 120% | < 20% |
| 5 | IL-6 | 0.633 | 80% - 120% | < 20% | 488 | 80% - 120% | < 20% |
| 6 | IL-8 | 0.591 | 80% - 120% | < 20% | 375 | 80% - 120% | < 20% |
| 7 | IL-10 | 0.298 | 80% - 120% | < 20% | 233 | 80% - 120% | < 20% |
| 8 | IL-12p70 | 1.22 | 80% - 120% | < 20% | 315 | 80% - 120% | < 20% |
| 9 | IL-13 | 4.21 | 80% - 120% | < 20% | 353 | 80% - 120% | < 20% |
| 10 | TNF- α | 0.690 | 80% - 120% | < 20% | 248 | 80% - 120% | < 20% |

Acceptance Data/ Non Specific Binding Specifications:

| Spot | Name | NSB Spec |
|------|---------------|----------|
| 1 | IFN- γ | < 1.0% |
| 2 | IL-1 β | < 1.0% |
| 3 | IL-2 | < 1.0% |
| 4 | IL-4 | < 1.0% |
| 5 | IL-6 | < 1.0% |
| 6 | IL-8 | < 1.0% |
| 7 | IL-10 | < 1.0% |
| 8 | IL-12p70 | < 1.0% |
| 9 | IL-13 | < 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 | 1330 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 544 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 146 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 37.8 | pg/mL |
| 2 | IL-1 β | Calibrator | 578 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 218 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 51.8 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 11.9 | pg/mL |
| 3 | IL-2 | Calibrator | 1550 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 419 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 39.6 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 3.66 | pg/mL |
| 4 | IL-4 | Calibrator | 285 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 109 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 21.8 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 3.4 | pg/mL |
| 5 | IL-6 | Calibrator | 752 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 273 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 48.4 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 8.11 | pg/mL |
| 6 | IL-8 | Calibrator | 560 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 224 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 33.8 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 6.31 | pg/mL |
| 7 | IL-10 | Calibrator | 383 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 136 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 25.3 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 3.81 | pg/mL |
| 8 | IL-12p70 | Calibrator | 504 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 195 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 38.3 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 7.56 | pg/mL |
| 9 | IL-13 | Calibrator | 500 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 172 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 47.3 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 12.6 | pg/mL |
| 10 | TNF- α | Calibrator | 342 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 92.5 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 16.5 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 2.13 | 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 |
| 1330 | 298,000 | 2.1 |
| 333 | 80,200 | 1.3 |
| 83.1 | 20,200 | 1.5 |
| 20.8 | 5,190 | 1.2 |
| 5.20 | 1,520 | 2.5 |
| 1.30 | 594 | 5.4 |
| 0.325 | 345 | 6.0 |
| 0.00 | 267 | 13.0 |

| IL-1 β - Spot 2 | | |
|-----------------------|------------|-----|
| Conc. pg/mL | ECL Signal | %CV |
| 578 | 1,180,000 | 3.1 |
| 145 | 326,000 | 2.3 |
| 36.1 | 84,000 | 2.5 |
| 9.03 | 22,000 | 1.4 |
| 2.26 | 6,580 | 3.7 |
| 0.564 | 2,680 | 2.4 |
| 0.141 | 1,680 | 2.9 |
| 0.00 | 1,370 | 3.8 |

| IL-2 - Spot 3 | | |
|---------------|------------|------|
| Conc. pg/mL | ECL Signal | %CV |
| 1550 | 1,160,000 | 4.1 |
| 388 | 338,000 | 2.2 |
| 96.9 | 91,100 | 2.2 |
| 24.2 | 23,200 | 3.3 |
| 6.05 | 6,220 | 5.3 |
| 1.51 | 1,710 | 4.1 |
| 0.378 | 591 | 9.2 |
| 0.00 | 188 | 13.0 |

| IL-4 - Spot 4 | | |
|---------------|------------|------|
| Conc. pg/mL | ECL Signal | %CV |
| 285 | 918,000 | 2.7 |
| 71.3 | 287,000 | 4.0 |
| 17.8 | 77,900 | 2.1 |
| 4.45 | 20,200 | 2.7 |
| 1.11 | 5,150 | 4.0 |
| 0.278 | 1,460 | 3.3 |
| 0.0696 | 482 | 7.6 |
| 0.00 | 190 | 14.0 |

| IL-6 - Spot 5 | | |
|---------------|------------|-----|
| Conc. pg/mL | ECL Signal | %CV |
| 752 | 1,220,000 | 2.6 |
| 188 | 293,000 | 1.7 |
| 47.0 | 66,100 | 1.8 |
| 11.8 | 15,600 | 1.6 |
| 2.94 | 3,990 | 3.2 |
| 0.734 | 1,120 | 2.6 |
| 0.184 | 392 | 4.7 |
| 0.00 | 158 | 6.9 |

| IL-8 - Spot 6 | | |
|---------------|------------|-----|
| Conc. pg/mL | ECL Signal | %CV |
| 560 | 709,000 | 2.8 |
| 140 | 185,000 | 3.5 |
| 35.0 | 47,100 | 2.6 |
| 8.75 | 11,900 | 2.4 |
| 2.19 | 3,240 | 3.8 |
| 0.547 | 955 | 3.2 |
| 0.137 | 365 | 5.2 |
| 0.00 | 192 | 8.5 |

| IL-10 - Spot 7 | | |
|----------------|------------|------|
| Conc. pg/mL | ECL Signal | %CV |
| 383 | 671,000 | 2.0 |
| 95.8 | 200,000 | 1.8 |
| 23.9 | 52,500 | 2.0 |
| 5.98 | 13,600 | 1.6 |
| 1.50 | 3,640 | 1.9 |
| 0.374 | 1,090 | 3.3 |
| 0.0935 | 448 | 5.1 |
| 0.00 | 238 | 11.0 |

| IL-12p70 - Spot 8 | | |
|-------------------|------------|------|
| Conc. pg/mL | ECL Signal | %CV |
| 504 | 380,000 | 3.7 |
| 126 | 113,000 | 1.5 |
| 31.5 | 29,900 | 2.5 |
| 7.88 | 7,800 | 2.2 |
| 1.97 | 2,200 | 3.9 |
| 0.492 | 778 | 5.8 |
| 0.123 | 418 | 13.0 |
| 0.00 | 369 | 20.0 |

| IL-13 - Spot 9 | | |
|----------------|------------|------|
| Conc. pg/mL | ECL Signal | %CV |
| 500 | 1,170,000 | 1.6 |
| 125 | 216,000 | 2.2 |
| 31.3 | 30,200 | 1.6 |
| 7.81 | 4,790 | 2.0 |
| 1.95 | 1,210 | 2.2 |
| 0.488 | 382 | 5.8 |
| 0.122 | 202 | 9.2 |
| 0.00 | 146 | 17.0 |

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| TNF- α - Spot 10 | | |
|-------------------------|------------|-----|
| Conc. pg/mL | ECL Signal | %CV |
| 342 | 291,000 | 4.5 |
| 85.5 | 72,900 | 2.9 |
| 21.4 | 18,400 | 4.6 |
| 5.34 | 4,560 | 3.6 |
| 1.34 | 1,450 | 3.4 |
| 0.334 | 568 | 4.6 |
| 0.0835 | 349 | 7.4 |
| 0.00 | 281 | 7.4 |


Components:

| Description | Lot Number | Storage Temperature | Expiration Date |
|--|------------------|---------------------|-----------------|
| Proinflammatory Panel 1 (human) Plate | Z0047124 | 2-8°C | 31 Dec 2021 |
| Anti-hu IFN- γ Antibody | D0081304 | 2-8°C | 31 Oct 2022 |
| Anti-hu IL-1 β Antibody | D0081128 | 2-8°C | 31 Jan 2022 |
| Anti-hu IL-2 Antibody | D0081305 | 2-8°C | 31 Oct 2022 |
| Anti-hu IL-4 Antibody | D0081133 | 2-8°C | 28 Feb 2022 |
| Anti-hu IL-6 Antibody | D0081160 | 2-8°C | 30 Apr 2022 |
| Anti-hu IL-8 Antibody | D0081255 | 2-8°C | 31 Jul 2022 |
| Anti-hu IL-10 Antibody | D0081211 | 2-8°C | 31 May 2022 |
| Anti-hu IL-12p70 Antibody | D0081127 | 2-8°C | 31 Jan 2022 |
| Anti-hu IL-13 Antibody | D0081344 | 2-8°C | 28 Feb 2023 |
| Anti-hu TNF- α Antibody | D0081308 | 2-8°C | 31 Oct 2022 |
| Proinflammatory Panel 1 (human) Calibrator Blend | A0080217 | 2-8°C | 30 Jun 2024 |
| Diluent 2 | M0020104 | \leq -10°C | 30 Jun 2021 |
| Diluent 3 | M0030089 | \leq -10°C | 30 Sep 2021 |
| 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 (human) Control 1 | Not Kit Specific |
| Proinflammatory Panel 1 (human) Control 2 | Not Kit Specific |
| Proinflammatory Panel 1 (human) 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 |  | 01 OCT 2019 |