

CERTIFICATE OF ANALYSIS

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

Kit Catalog Numbers: K15049-Series, K15052-Series, K15053-Series

Kit Lot Number: K0081096

Expiration Date: 28 Feb 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 | hu IFN- γ | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% |
| 2 | hu IL-1 β | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% |
| 3 | hu IL-2 | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% |
| 4 | hu IL-4 | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% |
| 5 | hu IL-6 | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% |
| 6 | hu IL-8 | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% |
| 7 | hu IL-10 | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% |
| 8 | hu IL-12p70 | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% |
| 9 | hu IL-13 | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% |
| 10 | hu 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 | hu IFN- γ | 1.76 | 80% - 120% | < 20% | 938 | 80% - 120% | < 20% |
| 2 | hu IL-1 β | 0.646 | 80% - 120% | < 20% | 375 | 80% - 120% | < 20% |
| 3 | hu IL-2 | 0.890 | 80% - 120% | < 20% | 938 | 80% - 120% | < 20% |
| 4 | hu IL-4 | 0.218 | 80% - 120% | < 20% | 158 | 80% - 120% | < 20% |
| 5 | hu IL-6 | 0.633 | 80% - 120% | < 20% | 488 | 80% - 120% | < 20% |
| 6 | hu IL-8 | 0.591 | 80% - 120% | < 20% | 375 | 80% - 120% | < 20% |
| 7 | hu IL-10 | 0.298 | 80% - 120% | < 20% | 233 | 80% - 120% | < 20% |
| 8 | hu IL-12p70 | 1.22 | 80% - 120% | < 20% | 315 | 80% - 120% | < 20% |
| 9 | hu IL-13 | 4.21 | 80% - 120% | < 20% | 353 | 80% - 120% | < 20% |
| 10 | hu TNF- α | 0.690 | 80% - 120% | < 20% | 248 | 80% - 120% | < 20% |

Acceptance Data/ Non Specific Binding Specifications:

| Spot | Name | NSB Spec |
|------|------------------|----------|
| 1 | hu IFN- γ | < 1.0% |
| 2 | hu IL-1 β | < 1.0% |
| 3 | hu IL-2 | < 1.0% |
| 4 | hu IL-4 | < 1.0% |
| 5 | hu IL-6 | < 1.0% |
| 6 | hu IL-8 | < 1.0% |
| 7 | hu IL-10 | < 1.0% |
| 8 | hu IL-12p70 | < 1.0% |
| 9 | hu IL-13 | < 1.0% |
| 10 | hu TNF- α | < 1.0% |

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Stock Concentration of Material Tested :

| Spot | Name | Item | Conc | Units |
|------|------------------|---|------|-------|
| 1 | hu IFN- γ | Calibrator | 1270 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 512 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 132 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 40.9 | pg/mL |
| 2 | hu IL-1 β | Calibrator | 574 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 203 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 47.1 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 10.9 | pg/mL |
| 3 | hu IL-2 | Calibrator | 1400 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 390 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 38.3 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 3.34 | pg/mL |
| 4 | hu IL-4 | Calibrator | 218 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 102 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 20 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 3.05 | pg/mL |
| 5 | hu IL-6 | Calibrator | 748 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 264 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 46.8 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 8.18 | pg/mL |
| 6 | hu IL-8 | Calibrator | 553 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 235 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 36.2 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 5.93 | pg/mL |
| 7 | hu IL-10 | Calibrator | 376 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 133 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 25.3 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 3.32 | pg/mL |
| 8 | hu IL-12p70 | Calibrator | 551 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 186 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 35.6 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 6.99 | pg/mL |
| 9 | hu IL-13 | Calibrator | 503 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 170 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 43.8 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 12.7 | pg/mL |
| 10 | hu TNF- α | Calibrator | 323 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 92 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 17.2 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 2.53 | pg/mL |

Controls tested may not be the same lot as shipped.

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Standard Curve Data:

| hu IFN- γ - Spot 1 | | |
|---------------------------|------------|-----|
| Conc. pg/mL | ECL Signal | %CV |
| 1270 | 185,000 | 1.9 |
| 318 | 47,400 | 2.2 |
| 79.4 | 11,800 | 2.9 |
| 19.8 | 3,140 | 3.8 |
| 4.96 | 1,070 | 4.4 |
| 1.24 | 559 | 5.1 |
| 0.310 | 414 | 5.1 |
| 0.00 | 352 | 8.0 |

| hu IL-1 β - Spot 2 | | |
|--------------------------|------------|-----|
| Conc. pg/mL | ECL Signal | %CV |
| 574 | 1,460,000 | 2.0 |
| 144 | 409,000 | 1.7 |
| 35.9 | 105,000 | 2.0 |
| 8.97 | 27,400 | 2.3 |
| 2.24 | 7,980 | 2.2 |
| 0.561 | 3,140 | 2.8 |
| 0.140 | 1,840 | 3.8 |
| 0.00 | 1,450 | 5.8 |

| hu IL-2 - Spot 3 | | |
|------------------|------------|-----|
| Conc. pg/mL | ECL Signal | %CV |
| 1400 | 1,200,000 | 2.9 |
| 350 | 338,000 | 3.0 |
| 87.5 | 90,900 | 2.5 |
| 21.9 | 23,300 | 3.9 |
| 5.47 | 6,700 | 5.3 |
| 1.37 | 1,990 | 3.4 |
| 0.342 | 923 | 4.6 |
| 0.00 | 608 | 4.2 |

| hu IL-4 - Spot 4 | | |
|------------------|------------|-----|
| Conc. pg/mL | ECL Signal | %CV |
| 218 | 791,000 | 3.7 |
| 54.5 | 243,000 | 2.3 |
| 13.6 | 64,100 | 1.9 |
| 3.41 | 16,800 | 3.7 |
| 0.852 | 4,320 | 5.5 |
| 0.213 | 1,260 | 2.9 |
| 0.0532 | 475 | 4.8 |
| 0.00 | 212 | 9.2 |

| hu IL-6 - Spot 5 | | |
|------------------|------------|-----|
| Conc. pg/mL | ECL Signal | %CV |
| 748 | 1,210,000 | 2.3 |
| 187 | 293,000 | 2.8 |
| 46.8 | 63,300 | 1.4 |
| 11.7 | 15,200 | 2.9 |
| 2.92 | 4,020 | 7.3 |
| 0.730 | 1,140 | 3.0 |
| 0.183 | 446 | 4.8 |
| 0.00 | 218 | 8.2 |

| hu IL-8 - Spot 6 | | |
|------------------|------------|-----|
| Conc. pg/mL | ECL Signal | %CV |
| 553 | 625,000 | 2.1 |
| 138 | 162,000 | 3.5 |
| 34.6 | 41,300 | 2.1 |
| 8.64 | 10,400 | 2.8 |
| 2.16 | 2,910 | 3.1 |
| 0.540 | 920 | 3.3 |
| 0.135 | 428 | 5.8 |
| 0.00 | 274 | 7.9 |

| hu IL-10 - Spot 7 | | |
|-------------------|------------|-----|
| Conc. pg/mL | ECL Signal | %CV |
| 376 | 714,000 | 2.3 |
| 94.0 | 209,000 | 2.4 |
| 23.5 | 54,500 | 2.2 |
| 5.88 | 14,000 | 2.8 |
| 1.47 | 3,840 | 2.7 |
| 0.367 | 1,270 | 2.2 |
| 0.0918 | 623 | 4.7 |
| 0.00 | 425 | 5.0 |

| hu IL-12p70 - Spot 8 | | |
|----------------------|------------|------|
| Conc. pg/mL | ECL Signal | %CV |
| 551 | 452,000 | 2.6 |
| 138 | 138,000 | 2.6 |
| 34.4 | 36,500 | 2.0 |
| 8.61 | 9,500 | 4.0 |
| 2.15 | 2,610 | 5.4 |
| 0.538 | 885 | 3.5 |
| 0.135 | 445 | 5.8 |
| 0.00 | 322 | 13.0 |

| hu IL-13 - Spot 9 | | |
|-------------------|------------|------|
| Conc. pg/mL | ECL Signal | %CV |
| 503 | 1,190,000 | 2.3 |
| 126 | 208,000 | 2.4 |
| 31.4 | 28,300 | 2.8 |
| 7.86 | 4,700 | 6.3 |
| 1.96 | 1,290 | 10.0 |
| 0.491 | 467 | 4.3 |
| 0.123 | 278 | 11.0 |
| 0.00 | 213 | 10.0 |

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| hu TNF- α - Spot 10 | | |
|----------------------------|------------|-----|
| Conc. pg/mL | ECL Signal | %CV |
| 323 | 296,000 | 3.2 |
| 80.8 | 72,900 | 3.7 |
| 20.2 | 18,800 | 3.0 |
| 5.05 | 4,790 | 4.9 |
| 1.26 | 1,620 | 5.0 |
| 0.315 | 727 | 7.0 |
| 0.0789 | 487 | 3.7 |
| 0.00 | 392 | 6.9 |


Components:

| Description | Lot Number | Storage Temperature | Expiration Date |
|--|------------------|---------------------|-----------------|
| Proinflammatory Panel 1 (human) Plate | Z0046922 | 2-8°C | 28 Feb 2021 |
| Anti-hu IFN- γ Antibody | D0081132 | 2-8°C | 28 Feb 2022 |
| Anti-hu IL-1 β Antibody | D0081128 | 2-8°C | 31 Jan 2022 |
| Anti-hu IL-2 Antibody | D0081129 | 2-8°C | 31 Jan 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 | D0081142 | 2-8°C | 28 Feb 2022 |
| Anti-hu IL-10 Antibody | D0081134 | 2-8°C | 31 Mar 2022 |
| Anti-hu IL-12p70 Antibody | D0081127 | 2-8°C | 31 Jan 2022 |
| Anti-hu IL-13 Antibody | D0081120 | 2-8°C | 31 Jan 2022 |
| Anti-hu TNF- α Antibody | D0081131 | 2-8°C | 31 Jan 2022 |
| Proinflammatory Panel 1 (human) Calibrator Blend | A0080182 | 2-8°C | 30 Sep 2023 |
| Diluent 2 | M0020102 | \leq -10°C | 28 Feb 2021 |
| Diluent 3 | M0030085 | \leq -10°C | 28 Feb 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), 100 mL | 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 | Dawn Stollar | Quality Assurance |  | 07 DEC 2018 |