

CERTIFICATE OF ANALYSIS

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Product Description: V-PLEX® and V-PLEX Plus Proinflammatory Panel 1 NHP Kit
Kit Catalog Numbers: K15056-Series
Kit Lot Number: K0080897
Expiration Date: 31 Jul 2019

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 | NHP IFN- γ | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% |
| 2 | NHP IL-1 β | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% |
| 3 | NHP IL-2 | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% |
| 5 | NHP IL-6 | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% |
| 6 | NHP IL-8 | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% |
| 7 | NHP IL-10 | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% | 80% - 120% | < 20% |

| Spot | Name | LLOQ | | | ULOQ | | |
|------|-------------------|-------|------------|-------|-------|------------|-------|
| | | Value | Recovery | CV | Value | Recovery | CV |
| 1 | NHP IFN- γ | 7.47 | 80% - 120% | < 20% | 938 | 80% - 120% | < 20% |
| 2 | NHP IL-1 β | 2.14 | 80% - 120% | < 20% | 375 | 80% - 120% | < 20% |
| 3 | NHP IL-2 | 0.890 | 80% - 120% | < 20% | 938 | 80% - 120% | < 20% |
| 5 | NHP IL-6 | 1.58 | 80% - 120% | < 20% | 488 | 80% - 120% | < 20% |
| 6 | NHP IL-8 | 1.13 | 80% - 120% | < 20% | 375 | 80% - 120% | < 20% |
| 7 | NHP IL-10 | 0.680 | 80% - 120% | < 20% | 233 | 80% - 120% | < 20% |

Acceptance Data/ Non Specific Binding Specifications:

| Spot | Name | NSB Spec |
|------|-------------------|----------|
| 1 | NHP IFN- γ | < 1.0% |
| 2 | NHP IL-1 β | < 1.0% |
| 3 | NHP IL-2 | < 1.0% |
| 5 | NHP IL-6 | < 1.0% |
| 6 | NHP IL-8 | < 1.0% |
| 7 | NHP IL-10 | < 1.0% |

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Stock Concentration of Material Tested :

| Spot | Name | Item | Conc | Units |
|------|-------------------|---|------|-------|
| 1 | NHP IFN- γ | Calibrator | 1380 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 682 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 183 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 52.3 | pg/mL |
| 2 | NHP IL-1 β | Calibrator | 566 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 215 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 52 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 11 | pg/mL |
| 3 | NHP IL-2 | Calibrator | 1410 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 431 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 42.3 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 3.83 | pg/mL |
| 5 | NHP IL-6 | Calibrator | 712 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 275 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 50.7 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 9.03 | pg/mL |
| 6 | NHP IL-8 | Calibrator | 556 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 223 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 40.4 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 5.91 | pg/mL |
| 7 | NHP IL-10 | Calibrator | 356 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 1 | 133 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 2 | 27.8 | pg/mL |
| | | Proinflammatory Panel 1 (human) Control 3 | 3.61 | pg/mL |

Controls tested may not be the same lot as shipped.

The calibrator and controls for this assay contain a human recombinant cytokine calibrator sequence that is highly homologous to the non-human primate cytokine. This assay has been verified to cross-react with homologs of rhesus and cynomolgus monkeys. See Product Insert for experimental data.

Standard Curve Data:

| NHP IFN- γ - Spot 1 | | | NHP IL-1 β - Spot 2 | | | NHP IL-2 - Spot 3 | | |
|----------------------------|------------|-----|---------------------------|------------|------|-------------------|------------|-----|
| Conc. pg/mL | ECL Signal | %CV | Conc. pg/mL | ECL Signal | %CV | Conc. pg/mL | ECL Signal | %CV |
| 1380 | 233,000 | 2.6 | 566 | 1,350,000 | 4.6 | 1410 | 1,090,000 | 2.5 |
| 345 | 62,500 | 2.6 | 142 | 370,000 | 3.7 | 353 | 320,000 | 1.1 |
| 86.3 | 16,200 | 1.9 | 35.4 | 96,500 | 2.7 | 88.1 | 86,600 | 1.8 |
| 21.6 | 4,230 | 1.3 | 8.84 | 24,000 | 2.0 | 22.0 | 21,700 | 4.1 |
| 5.39 | 1,270 | 4.4 | 2.21 | 7,010 | 2.6 | 5.51 | 5,920 | 3.7 |
| 1.35 | 578 | 5.2 | 0.553 | 2,540 | 2.7 | 1.38 | 1,800 | 3.3 |
| 0.337 | 378 | 7.1 | 0.138 | 1,420 | 3.6 | 0.344 | 772 | 4.9 |
| 0.00 | 323 | 6.6 | 0.00 | 1,110 | 18.0 | 0.00 | 426 | 6.5 |

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| NHP IL-6 - Spot 5 | | | NHP IL-8 - Spot 6 | | | NHP IL-10 - Spot 7 | | |
|-------------------|---------------|------|-------------------|---------------|-----|--------------------|---------------|-----|
| Conc. pg/mL | ECL Signal | %CV | Conc. pg/mL | ECL Signal | %CV | Conc. pg/mL | ECL Signal | %CV |
| 712 | 1,320,000 | 3.5 | 556 | 630,000 | 1.9 | 356 | 640,000 | 1.5 |
| 178 | 319,000 | 1.4 | 139 | 169,000 | 3.9 | 89.0 | 188,000 | 1.1 |
| 44.5 | 70,900 | 2.4 | 34.8 | 42,700 | 1.9 | 22.3 | 49,900 | 2.5 |
| 11.1 | 16,600 | 3.2 | 8.69 | 10,700 | 2.9 | 5.56 | 12,500 | 2.4 |
| 2.78 | 4,100 | 3.3 | 2.17 | 3,010 | 2.5 | 1.39 | 3,450 | 2.1 |
| 0.695 | 1,180 | 3.7 | 0.543 | 961 | 3.1 | 0.348 | 1,130 | 2.5 |
| 0.174 | 426 | 8.8 | 0.136 | 451 | 4.4 | 0.0869 | 541 | 5.9 |
| 0.00 | 179 | 12.0 | 0.00 | 288 | 9.9 | 0.00 | 343 | 7.7 |


Components:

| Description | Lot Number | Storage Temperature | Expiration Date |
|--|------------------|----------------------------|-----------------|
| Proinflammatory Panel 1 (human) Plate | Z0046562 | 2-8°C | 31 Dec 2019 |
| Anti-hu IFN- γ Antibody | D0081003 | 2-8°C | 30 Nov 2019 |
| Anti-hu IL-1 β Antibody | D0081004 | 2-8°C | 30 Nov 2019 |
| Anti-hu IL-2 Antibody | D0080982 | 2-8°C | 31 Oct 2019 |
| Anti-hu IL-6 Antibody | D0081006 | 2-8°C | 30 Nov 2019 |
| Anti-hu IL-8 Antibody | D0080919 | 2-8°C | 31 Jul 2019 |
| Anti-hu IL-10 Antibody | D0081007 | 2-8°C | 30 Nov 2019 |
| Proinflammatory Panel 1 (human) Calibrator Blend | A0080147 | 2-8°C | 31 Aug 2022 |
| Diluent 2 | M0020096 | $\leq -10^{\circ}\text{C}$ | 30 Nov 2019 |
| Diluent 3 | M0030077 | $\leq -10^{\circ}\text{C}$ | 30 Nov 2019 |
| 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 | Dawn Stollar | Quality Assurance |  | 16 OCT 2017 |