

# CERTIFICATE OF ANALYSIS

Page 1 of 4

**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:** K0081464

**Expiration Date:** 31 Mar 2022

## Acceptance Data/ Percent Recovery Specifications:

| Spot | Name          | Calibrator |       | Proinflammatory Panel 1 (mouse) Control 1 |       | Proinflammatory Panel 1 (mouse) Control 2 |       | Proinflammatory Panel 1 (mouse) Control 3 |       |
|------|---------------|------------|-------|-------------------------------------------|-------|-------------------------------------------|-------|-------------------------------------------|-------|
|      |               | Recovery   | CV    | Recovery                                  | CV    | Recovery                                  | CV    | Recovery                                  | CV    |
| 1    | IFN- $\gamma$ | 80% - 120% | < 20% | 75% - 125%                                | < 25% | 75% - 125%                                | < 25% | 75% - 125%                                | < 25% |
| 2    | IL-1 $\beta$  | 80% - 120% | < 20% | 75% - 125%                                | < 25% | 75% - 125%                                | < 25% | 75% - 125%                                | < 25% |
| 3    | IL-2          | 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- $\alpha$ | 80% - 120% | < 20% | 75% - 125%                                | < 25% | 75% - 125%                                | < 25% | 75% - 125%                                | < 25% |

| Spot | Name          | LLOQ  |            |       | ULOQ  |            |       |
|------|---------------|-------|------------|-------|-------|------------|-------|
|      |               | Value | Recovery   | CV    | Value | Recovery   | CV    |
| 1    | IFN- $\gamma$ | 0.390 | 75% - 125% | < 25% | 570   | 75% - 125% | < 25% |
| 2    | IL-1 $\beta$  | 0.720 | 75% - 125% | < 25% | 1030  | 75% - 125% | < 25% |
| 3    | IL-2          | 1.03  | 75% - 125% | < 25% | 1570  | 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- $\alpha$ | 0.980 | 75% - 125% | < 25% | 403   | 75% - 125% | < 25% |

## Acceptance Data/ Non Specific Binding Specifications:

| Spot | Name          | NSB Spec |
|------|---------------|----------|
| 1    | IFN- $\gamma$ | < 1.0%   |
| 2    | IL-1 $\beta$  | < 1.0%   |
| 3    | IL-2          | < 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- $\alpha$ | < 1.0%   |

# CERTIFICATE OF ANALYSIS

Page 2 of 4

## Stock Concentration of Material Tested :

| Spot | Name          | Item                                      | Conc  | Units |
|------|---------------|-------------------------------------------|-------|-------|
| 1    | IFN- $\gamma$ | 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-1 $\beta$  | Calibrator                                | 1510  | 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 |
| 3    | IL-2          | Calibrator                                | 2430  | pg/mL |
|      |               | Proinflammatory Panel 1 (mouse) Control 1 | 908   | pg/mL |
|      |               | Proinflammatory Panel 1 (mouse) Control 2 | 54.5  | pg/mL |
|      |               | Proinflammatory Panel 1 (mouse) Control 3 | 5.57  | pg/mL |
| 4    | IL-4          | Calibrator                                | 1660  | 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                                | 945   | 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                                | 5120  | 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                                | 2150  | 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                                | 2630  | 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                                | 29800 | 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- $\alpha$ | Calibrator                                | 572   | 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.

## CERTIFICATE OF ANALYSIS

Page 3 of 4

### Standard Curve Data:

| IFN- $\gamma$ - Spot 1 |               |      |
|------------------------|---------------|------|
| Conc.<br>pg/mL         | ECL<br>Signal | %CV  |
| 764                    | 1,340,000     | 2.6  |
| 191                    | 405,000       | 2.3  |
| 47.8                   | 113,000       | 2.1  |
| 11.9                   | 28,300        | 1.7  |
| 2.98                   | 7,850         | 3.5  |
| 0.746                  | 2,240         | 2.8  |
| 0.187                  | 749           | 2.5  |
| 0.00                   | 178           | 10.0 |

| IL-1 $\beta$ - Spot 2 |               |      |
|-----------------------|---------------|------|
| Conc.<br>pg/mL        | ECL<br>Signal | %CV  |
| 1510                  | 547,000       | 3.7  |
| 378                   | 158,000       | 5.9  |
| 94.4                  | 44,200        | 5.9  |
| 23.6                  | 11,100        | 6.0  |
| 5.90                  | 3,270         | 6.5  |
| 1.47                  | 1,030         | 6.4  |
| 0.369                 | 456           | 8.0  |
| 0.00                  | 212           | 13.0 |

| IL-2 - Spot 3  |               |      |
|----------------|---------------|------|
| Conc.<br>pg/mL | ECL<br>Signal | %CV  |
| 2430           | 1,160,000     | 3.7  |
| 608            | 331,000       | 2.8  |
| 152            | 83,300        | 3.6  |
| 38.0           | 19,400        | 4.4  |
| 9.49           | 5,750         | 4.0  |
| 2.37           | 1,660         | 2.9  |
| 0.593          | 631           | 5.0  |
| 0.00           | 218           | 13.0 |

| IL-4 - Spot 4  |               |     |
|----------------|---------------|-----|
| Conc.<br>pg/mL | ECL<br>Signal | %CV |
| 1660           | 1,180,000     | 2.0 |
| 415            | 348,000       | 2.4 |
| 104            | 98,300        | 1.7 |
| 25.9           | 25,400        | 3.2 |
| 6.48           | 7,090         | 2.5 |
| 1.62           | 2,150         | 3.7 |
| 0.405          | 786           | 3.9 |
| 0.00           | 276           | 7.4 |

| IL-5 - Spot 5  |               |     |
|----------------|---------------|-----|
| Conc.<br>pg/mL | ECL<br>Signal | %CV |
| 945            | 1,430,000     | 2.0 |
| 236            | 335,000       | 2.3 |
| 59.1           | 81,500        | 3.0 |
| 14.8           | 19,700        | 4.8 |
| 3.69           | 5,640         | 2.2 |
| 0.923          | 1,680         | 2.8 |
| 0.231          | 690           | 3.3 |
| 0.00           | 299           | 4.9 |

| IL-6 - Spot 6  |               |     |
|----------------|---------------|-----|
| Conc.<br>pg/mL | ECL<br>Signal | %CV |
| 5120           | 534,000       | 2.1 |
| 1280           | 116,000       | 2.1 |
| 320            | 27,800        | 2.5 |
| 80.0           | 6,540         | 4.3 |
| 20.0           | 2,210         | 3.0 |
| 5.00           | 784           | 4.5 |
| 1.25           | 409           | 5.9 |
| 0.00           | 275           | 7.8 |

| KC/GRO - Spot 7 |               |      |
|-----------------|---------------|------|
| Conc.<br>pg/mL  | ECL<br>Signal | %CV  |
| 2150            | 2,100,000     | 1.8  |
| 538             | 483,000       | 2.5  |
| 134             | 106,000       | 1.7  |
| 33.6            | 22,800        | 4.5  |
| 8.40            | 6,510         | 2.7  |
| 2.10            | 1,790         | 3.1  |
| 0.525           | 633           | 4.9  |
| 0.00            | 194           | 10.0 |

| IL-10 - Spot 8 |               |      |
|----------------|---------------|------|
| Conc.<br>pg/mL | ECL<br>Signal | %CV  |
| 2630           | 669,000       | 3.6  |
| 658            | 166,000       | 4.8  |
| 164            | 43,400        | 2.9  |
| 41.1           | 11,100        | 4.6  |
| 10.3           | 3,680         | 3.1  |
| 2.57           | 1,550         | 5.0  |
| 0.642          | 1,110         | 11.0 |
| 0.00           | 929           | 13.0 |

| IL-12p70 - Spot 9 |               |      |
|-------------------|---------------|------|
| Conc.<br>pg/mL    | ECL<br>Signal | %CV  |
| 29800             | 676,000       | 3.0  |
| 7450              | 132,000       | 2.4  |
| 1860              | 22,600        | 2.6  |
| 466               | 4,190         | 4.9  |
| 116               | 1,230         | 3.6  |
| 29.1              | 433           | 7.2  |
| 7.28              | 246           | 11.0 |
| 0.00              | 162           | 13.0 |

# CERTIFICATE OF ANALYSIS

Page 4 of 4

| TNF- $\alpha$ - Spot 10 |               |      |
|-------------------------|---------------|------|
| Conc.<br>pg/mL          | ECL<br>Signal | %CV  |
| 572                     | 505,000       | 1.8  |
| 143                     | 131,000       | 2.0  |
| 35.8                    | 34,700        | 2.3  |
| 8.94                    | 8,520         | 4.8  |
| 2.23                    | 2,610         | 2.8  |
| 0.559                   | 896           | 5.0  |
| 0.140                   | 468           | 7.4  |
| 0.00                    | 300           | 11.0 |

## Components:

| Description                                      | Lot Number       | Storage Temperature | Expiration Date |
|--------------------------------------------------|------------------|---------------------|-----------------|
| Proinflammatory Panel 1 (mouse) Plate            | Z0047302         | 2-8°C               | 30 Sep 2022     |
| Anti-ms IFN- $\gamma$ Antibody                   | D0081378         | 2-8°C               | 31 Mar 2023     |
| Anti-ms IL-1 $\beta$ Antibody                    | D0081384         | 2-8°C               | 31 May 2023     |
| Anti-ms IL-2 Antibody                            | D0081440         | 2-8°C               | 31 Jul 2023     |
| Anti-ms IL-4 Antibody                            | D0081441         | 2-8°C               | 30 Jun 2023     |
| Anti-ms IL-5 Antibody                            | D0081442         | 2-8°C               | 31 Jul 2023     |
| Anti-ms IL-6 Antibody                            | D0081322         | 2-8°C               | 31 Dec 2022     |
| Anti-ms KC/GRO Antibody                          | D0081323         | 2-8°C               | 28 Feb 2023     |
| Anti-ms IL-10 Antibody                           | D0081291         | 2-8°C               | 31 Mar 2023     |
| Anti-ms IL-12p70 Antibody                        | D0081446         | 2-8°C               | 31 Aug 2023     |
| Anti-ms TNF- $\alpha$ Antibody                   | D0081447         | 2-8°C               | 30 Jun 2023     |
| Proinflammatory Panel 1 (mouse) Calibrator Blend | A0080250         | 2-8°C               | 28 Feb 2025     |
| Diluent 41                                       | M0410031         | $\leq$ -10°C        | 30 Jun 2022     |
| Diluent 45                                       | M0450031         | $\leq$ -10°C        | 31 Mar 2022     |
| 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  |  | 22 MAY 2020 |