Meso Scale Diagnostics, LLC. CERTIFICATE OF ANALYSIS

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| Product Description: | V-PLEX® and V-PLEX Plus Mouse IL-17A Kit |
|----------------------|--|
| Kit Catalog Numbers: | K152RF-series |
| Kit Lot Number: | K0081105 |
| Expiration Date: | 30 Nov 2019 |

Acceptance Data/ Percent Recovery Specifications:

| | | Calibrator | | TH17 Panel 1 (mouse) Control 1 | | TH17 Panel 1 (mouse) Control 2 | | TH17 Panel 1 (mouse) Control 3 | |
|------|-----------|------------|-------|-----------------------------------|-------|-----------------------------------|-------|-----------------------------------|-------|
| Spot | Name | Recovery | CV | Recovery | CV | Recovery | CV | Recovery | CV |
| 1 | ms IL-17A | 80% - 120% | < 20% | 75% - 125% | < 20% | 75% - 125% | < 20% | 75% - 125% | < 20% |

| | | LLOQ | | | ULOQ | | |
|------|-----------|-------|------------|-------|-------|------------|-------|
| Spot | Name | Value | Recovery | CV | Value | Recovery | CV |
| 1 | ms IL-17A | 0.255 | 75% - 125% | < 20% | 360 | 75% - 125% | < 20% |

Stock Concentration of Material Tested :

| Spot | Name | Item | Conc | Units |
|-------------|--------------------------------|--------------------------------|-------|-------|
| 1 ms IL-17A | | Calibrator | 638 | pg/mL |
| | TH17 Panel 1 (mouse) Control 1 | 494 | pg/mL | |
| | TH17 Panel 1 (mouse) Control 2 | 85.2 | pg/mL | |
| | | TH17 Panel 1 (mouse) Control 3 | 14.8 | pg/mL |

Controls tested may not be the same lot as shipped.

Standard Curve Data:

| ms IL-17A - Spot 1 | | | | |
|--------------------|---------------|-----|--|--|
| Conc. pg/mL | ECL Signal | %CV | | |
| 638 | 328,000 | 1.9 | | |
| 160 | 85,800 | 1.3 | | |
| 39.9 | 21,600 | 2.5 | | |
| 9.97 | 5,420 | 1.5 | | |
| 2.49 | 1,420 | 1.6 | | |
| 0.623 | 405 | 2.0 | | |
| 0.156 | 153 | 2.3 | | |
| 0.00 | 74 | 6.7 | | |



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Components:

| Description | Lot Number | Storage Temperature | Expiration Date |
|---------------------------------------|------------------|---------------------|-----------------|
| Mouse IL-17A Plate | Z0046933 | 2-8°C | 31 Mar 2021 |
| Anti ms IL-17A Antibody | D0080957 | 2-8°C | 30 Nov 2019 |
| TH17 Panel 1 (mouse) Calibrator Blend | A0080157 | 2-8°C | 31 Oct 2022 |
| Diluent 41 | M0410024 | \leq -10°C | 30 Sep 2020 |
| Diluent 45 | M0450023 | \leq -10°C | 31 Jan 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 | | | |
| TH17 Panel 1 (mouse) Control 1 | Not Kit Specific | | | |
| TH17 Panel 1 (mouse) Control 2 | Not Kit Specific | | | |
| TH17 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 | Dawn Stollar | Quality Assurance | Dawn Stollar | 07 NOV 2018 |