Q-Plex IL-1 Family Array

The IL-1 family is a group of cytokines, along with associated receptors and binding proteins, that plays a central role in the regulation of immune and inflammatory responses. The Q-Plex IL-1 Family Array is a fully quantitative ELISA-based chemiluminescent assay allowing concurrent measurement of 10 ligands, receptors, and binding proteins involved in the IL-1 family of cytokines.

The Q-Plex IL-1 Family Array includes the following:

IL-1 family ligands: IL-1 alpha/IL-1F1, IL-1 beta/IL-1F2, IL-1ra/IL-1F3, IL-18/IL-1F4, IL-33/IL-1F11

IL-1 family receptors: sIL-1 R1, sIL-1 R2, sIL-1 R3/IL-1 RAcP, sIL-1 R4 /ST2

IL-1 family binding proteins: IL-18 BPa

Each kit contains a 96-well plate, with each well featuring the 10-plex and a reference spot, along with all other reagents necessary to perform the test. Using just 25 µl of sample per well, up to 80 samples can be assayed for all 10 markers in the panel in 3.5 hours.

Human IL-1 Family Kit

<table>
<thead>
<tr>
<th>Catalog #</th>
<th>Product</th>
<th>Markers</th>
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</thead>
<tbody>
<tr>
<td>118651HU</td>
<td>Q-Plex™ Human IL-1 Family Array (10-plex)</td>
<td>IL-1α  IL-1β  IL-1ra  IL-18  IL-33  sIL-1 R1  sIL-1 R3  sIL-1 R2  sIL-1 R4</td>
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</tbody>
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Product Range

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Standard High Point (pg/mL)</th>
<th>Standard Low Point (pg/mL)</th>
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<tbody>
<tr>
<td>IL-1α</td>
<td>1100</td>
<td>1.5</td>
</tr>
<tr>
<td>IL-1β</td>
<td>4100</td>
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<tr>
<td>IL-1ra</td>
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<tr>
<td>IL-18</td>
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<td>IL-33</td>
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<td>IL-18BPa</td>
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<td>sIL-1 R1</td>
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<td>7.3</td>
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<tr>
<td>sIL-1 R2</td>
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<tr>
<td>sIL-1 R3</td>
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<td>6.5</td>
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<tr>
<td>sIL-1 R4</td>
<td>30000</td>
<td>41.2</td>
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</table>
The Q-Plex™ Array

**SPOTTING IN 96 WELL PLATE**
- Robotic liquid handlers print 20-50nL spots of capture antibody
- Each spot is a unique assay within the well
- Low spot-to-spot variability (CV)
- Spot size 350-500µm
- Plates are QC’d for spot quality

**PERFORMING THE ASSAY**
- Add as little as 50µL of sample
- Wash
- Add mix of detection antibodies specific to kit
- Wash
- Add streptavidin conjugated HRP or IR-Dye

**DETECTION OF SAMPLE**
- With the addition of substrate, a response is produced
- If antigen is present the spot emits a signal proportional to the amount of antigen in the sample
- If no antigen is present, the spot is not visible

**IMAGE CAPTURE**
- An image of the plate is taken via a high resolution camera (Q-View Imager or approved gel doc system) or fluorescent scanner (LI-COR Odyssey)
- The image file (TIFF) is imported into Q-View Software and a Q-View Project is created

**IMAGE ANALYSIS**
- Image is opened in Q-View Software
- Spots are automatically found on plate image
- Intensity of spot response is measured and raw data is generated
- User imports product specs and well layout

**DATA ANALYSIS**
- Raw data is analyzed and compared to in-plate standard
- Regression models used to calculate unknowns
- Standard curves are calculated and sample and statistical data is exported

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