Quanterix™
The Science of Precision Health

Simoa™ mouse IL-6 Discovery Kit

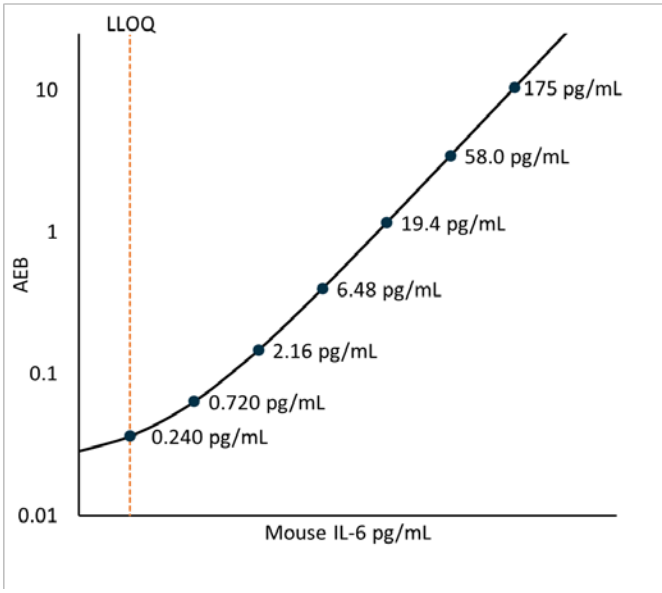
SR-X™ Data Sheet

Item 102869

Description

Interleukin 6 (IL-6) is an alpha-helical cytokine with a wide variety of biological functions, including inducement of acute phase reactions, inflammation, hematopoiesis, bone metabolism, and cancer progression. It is secreted by multiple cell types as a 22k-28k Dalton phosphorylated and variably glycosylated molecule. Mature mouse IL-6 shares 41% aa sequence identity with human and rat IL-6. IL-6 is secreted by T cells and macrophages to induce immune responses following tissue trauma leading to inflammation. IL-6 also acts as an anti-inflammatory myokine, secreted by muscles during contraction after which it acts to increase breakdown of fats and improve insulin resistance. Because of its role in inducing inflammation and autoimmune response, there is interest in developing anti-IL-6 agents as potential therapies against various diseases, including rheumatoid arthritis and cancer.

Calibration Curve: Calibrator concentrations and Lower Limit of Quantification depicted.



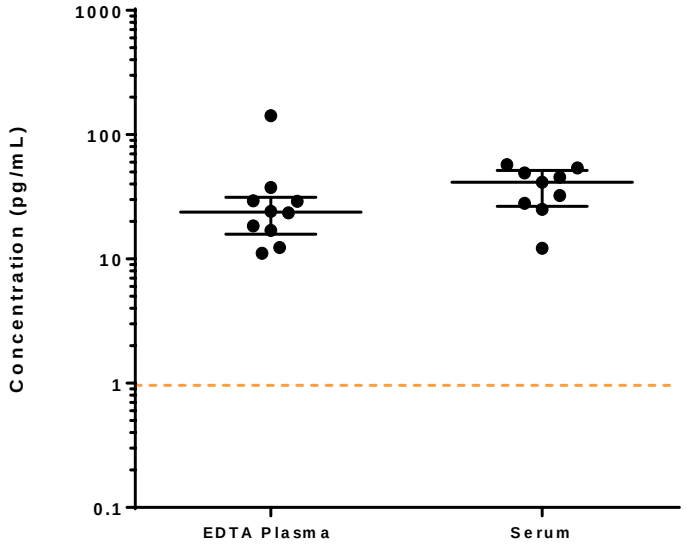
Lower Limit of Quantification (LLOQ): Triplicate measurements of serially diluted calibrator were read back on the calibration curve over 6 runs each for 1 reagent lot across 2 instruments (6 runs total).

Limit of Detection (LOD): Calculated as 2.5 standard deviations from the mean of background signal read back on each calibration curve over 6 runs each for 1 reagent lot across 2 instruments (6 runs total).

LLOQ	**0.240 pg/mL** pooled CV 20% mean recovery 106%
LOD	**0.072 pg/mL** range 0.044-0.126 pg/mL
Dynamic range	Serum and plasma: 0 – 700 pg/mL
Diluted Sample volume*	100 µL per measurement
Tests per kit	192

***See Kit Instruction for details**

Endogenous Sample Reading: Healthy donor plasma (n=10) and serum (n=9) were measured. Bars depict median with interquartile range. Orange line represents functional LLOQ.



Sample Type	Mean mIL-6 pg/mL	Median mIL-6 pg/mL	% Above LLOQ	% Above LOD
Serum	38.34	41.33	100%	100%
Plasma	34.46	23.84	100%	100%

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Assay designed by Rob

Precision: Measurements of 3 serum- and plasma-based panels and 2 calibrator-based controls. Triplicate measurements were made for 6 runs each for 1 reagent lot across 2 instruments (6 runs total, 18 measurements).

Sample	Mean (pg/mL)	Within run CV	Between run CV	Between inst CV
Control 1	3.58	5.1%	5.5%	3.7%
Control 2	118.30	4.7%	6.9%	0.01%
Panel 1	6.75	7.3%	3.5%	1.1%
Panel 2	63.51	5.4%	6.7%	5.8%
Panel 3	111.68	8.2%	3.8%	0.42%

Spike and Recovery: 2 serum and 2 plasma samples were spiked at high and low concentrations within the range of the assay and analyzed on SR-X.

Dilution Linearity: 1 endogenous plasma and 1 spiked serum sample were diluted 2x serially from MRD (4x) to 256x with Sample Diluent.

Spike and Recovery (Serum/Plasma)	**Mean = 97.5%** Range: 81-118%
Dilution Linearity (256x)	**Mean = 99.6%** Range: 97–121%

The Simoa mouse IL-6 Discovery assay kit is formulated for use on either the SR-X or HD-1 platform. Data in this document was obtained from runs on the SR-X platform unless otherwise noted. Some differences in performance claims between the HD-1 and SR-X may be observed when comparing datasheets for the two platforms. This may be due to experiments run at different time-points with different reagent lots and different samples, or may be due to minor differences in antibody and analyte behavior in the different assay formats.

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