Description

Interleukin 8 (IL-8) is a cytokine of 72 amino acids (molecular weight 8 kDa) whose primary role is induction of chemotaxis in neutrophils, basophils, and T-cells, causing them to migrate to the site of infection. IL-8 also induces phagocytosis by the target cells. IL-8 is secreted by cells involved in the immune response to antigens, typically starting with macrophages, which release IL-8 to recruit other cells. Secretion of IL-8 is increased by oxidative stress and results in the recruitment of inflammatory cells. This recruitment further induces oxidative stress mediators, making it a key player in localized inflammation. IL-8 elevation has been associated with a range of clinical conditions, including psoriasis, chronic hepatitis C, and thyroid disease. IL-8 has recently been identified as a potential therapeutic target in inflammatory diseases.

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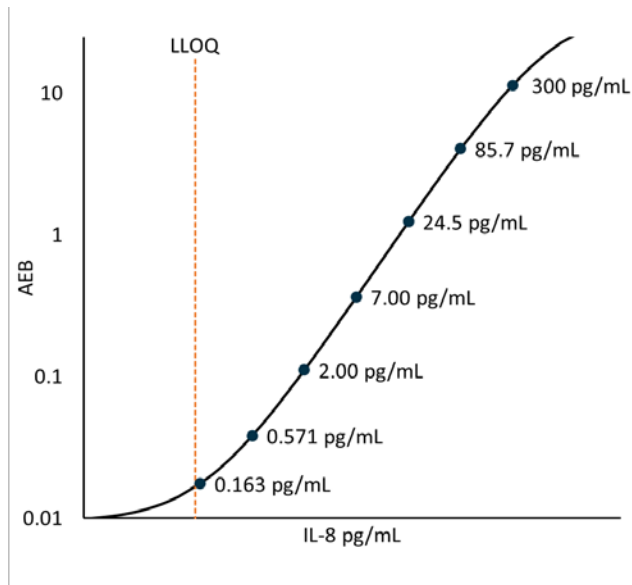

Lower Limit of Quantification (LLOQ): Triplicate measurements of serially diluted calibrator were read back on the calibration curve over 6 runs each for 1 reagent lot across 2 instruments (6 runs total).

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	**0.146 pg/mL** pooled CV 18% mean recovery 101%
LOD	**0.0387 pg/mL** range 0.0111-0.0568 pg/mL
Dynamic range (serum and plasma)	0-300 pg/mL
Diluted Sample volume*	100 µL per measurement
Tests per kit	96

*See Kit Instruction for details

Endogenous Sample Reading: Healthy donor matched EDTA plasma (n=10), and serum (n=10) were measured. Bars depict median with interquartile range. Orange line represents functional LLOQ.
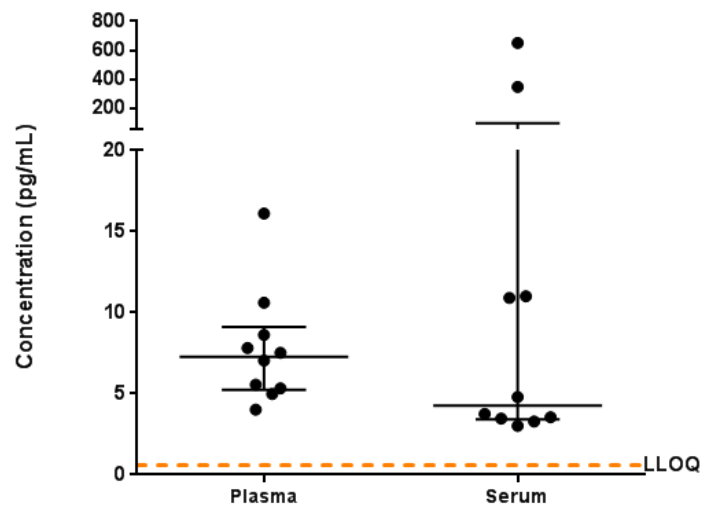
Note: Specificity of highest measured IL-8 concentration was verified with knockdown study.

Sample Type	Mean IL-8 pg/mL	Median IL-8pg/mL	% Above LOD
Serum	104	4.27	100%
Plasma	7.76	7.28	100%

Precision: Measurements of 3 serum-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	10.8	2.8%	2.3%	0.7%
Control 2	190	4.5%	4.7%	2.2%
Panel 1	5.59	3.0%	3.6%	14%
Panel 2	54.9	2.5%	4.2%	2.1%
Panel 3	335	3.4%	2.4%	5.0%

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

Dilution Linearity: 1 endogenous EDTA plasma and 1 endogenous serum sample were diluted 2X serially from MRD (4x) to 64x with Sample Diluent.

Spike and Recovery (Serum/Plasma)	Mean = 86% Range: 73-98%
Dilution Linearity (64x)	**Mean = 107%** Range: 99 –119%

The Simoa IL-8 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.