Quanterix™
The Science of Precision Health

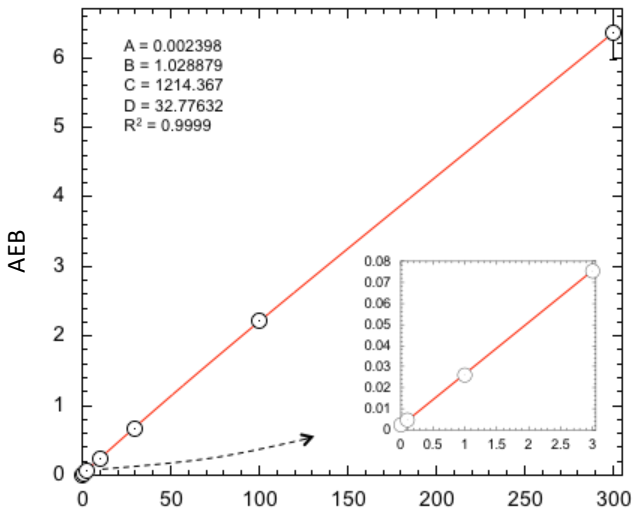
Simoa® IL-8 Advantage Kit
HD-1/HD-X Data Sheet

Item 100198

Description

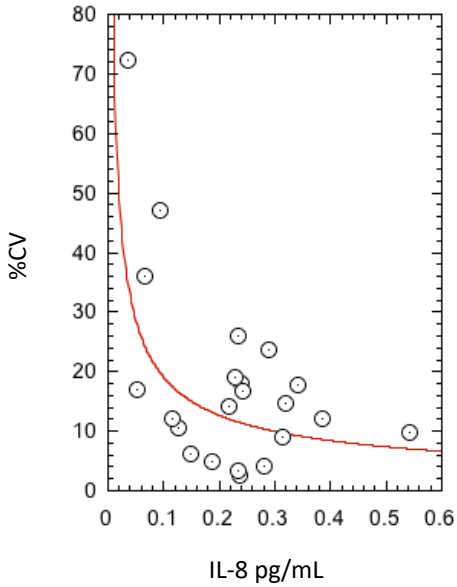
Interleukin 8 (IL-8) is a cytokine of 72 amino acids (molecular weight 8 kDa) whose primary role is induction of chemotaxis in neutrophils, basophils, and T-cells, causing them to migrate to the site of infection. IL-8 also induces phagocytosis by the target cells. IL-8 is secreted by cells involved 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 oxidant stress, which thereby cause the recruitment of inflammatory cells, inducing a further increase in oxidant stress mediators, making it a key parameter 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: Four-parameter curve fit parameters are depicted.



Limit of Detection (LOD): Calculated as 2.5 standard deviations from the mean of background signal read back on each calibration curve over 10 runs.

Sample Dose CV Profile: Triplicate measurements of diluted serum samples assayed over multiple runs (22 measurements). LLOQ determined as the concentration at which %CV exceeds 20% according to the power equation fit to the data.



LLOQ	**0.0921 pg/mL**
LOD	**0.0560 pg/mL** SD 0.0474 pg/mL
Diluted Sample volume*	100 µL per measurement
Tests per kit	96

***See Kit Instruction for details**

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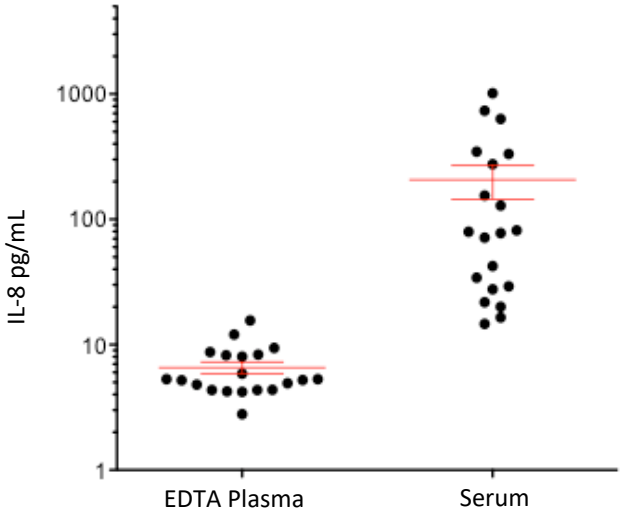
Endogenous Sample Reading: Healthy donor matched EDTA plasma (n=20) and serum (n=20) were measured. Error bars depict mean and SEM.



Sample Type	Median IL-8 pg/mL	% Above LOD
EDTA Plasma	5.31	100%
Serum	78.7	100%

Precision: Five samples consisting of three serum-based panels and two IL-8 controls were assayed in replicates of three at two separate times per day for five days using a single lot of reagents and calibrators. Analysis of variance (fully nested ANOVA) results are summarized in the following table.

Sample	Mean (pg/mL)	Within run CV	Between run CV	Between day CV
Control 1	14.5	3.8%	5.3%	0.0%
Control 2	232	4.7%	5.2%	4.1%
Panel 1	29.3	7.1%	3.6%	1.3%
Panel 2	87.2	7.0%	4.0%	0.0%
Panel 3	328	7.8%	3.5%	4.0%

Spike and Recovery: IL-8 spiked into 4 serum samples at 2 levels.

Admixture Linearity: High IL-8 serum sample admixed with low IL-8 sample, mean of 10 levels

Dilution Linearity: 1 spiked serum sample diluted 2x serially from MRD (4x) to 128x with Sample Diluent.

Spike and Recovery (Serum)	**Mean = 108.3%** Range: 97.8–136.6%
Admixture Linearity	**Mean = 107.9%**
Dilution Linearity (128x)	**Mean = 118.0%** Range: 106.4–136.4%

The Simoa IL-8 Advantage assay kit is formulated for use on the SR-X®, HD-1, or HD-X® platform. Data in this document was obtained from runs on the HD-1 platform unless otherwise noted. Some differences in performance claims between SR-X and HD-1/HD-X may be observed when comparing datasheets for these platforms. This may be due to experiments run at different time-points with different reagent lots and different samples, or it may be due to minor differences in antibody and analyte behavior in the different assay formats.

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