Quanterix™
The Science of Precision Health

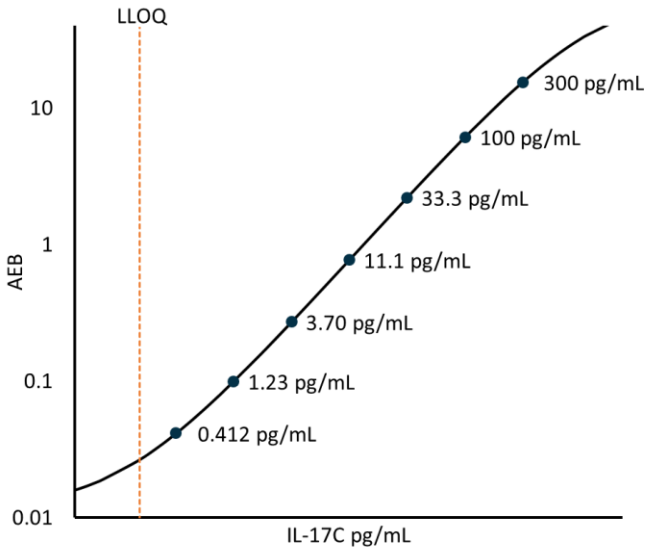
Simoa® IL-17C Discovery Kit
HD-1/HD-X Data Sheet

Item 102570

Description

The IL-17 family consists of six related molecules, IL-17A, IL-17B, IL-17C, IL-17D, IL-17E, and IL-17F, of 163–202 aa that bear 20–50% homology to IL-17A, especially within the C-terminal region. IL-17C is 23% homologus with IL-17A. All IL-17 molecules share four conserved cysteine residues that may participate in the formation of intermolecular disulfide linkages. It has been indicated that IL-17 family members may induce inflammatory cytokines not only through activated T cells, but also through activated monocytes and macrophages. IL-17C binds IL-17RE which is selectively expressed in the lymphocyte compartment by Th17 cells; it has been indicated that IL-17C/IL-17RE could function in adaptive immunity to regulate T cell function. IL-17C stimulates epithelial inflammatory responses, including the expression of proinflammatory cytokines, chemokines and antimicrobial peptides, which are similar to those induced by IL-17A and IL-17F. However, IL-17C was produced by distinct cellular sources, such as epithelial cells, in contrast to IL-17A, which was produced mainly by leukocytes, especially those of the TH17 subset of helper T cells. IL-17 family members are involved in the pathogenesis of many inflammatory and autoimmune disorders, especially in the development of rheumatoid arthritis, other inflammatory arthritis disorders, and colitis. IL-17A, IL-17B, IL-17C, and IL-17F can affect inflammatory cytokine production of fibroblasts and macrophages. Recently, IL-17C expression in synovial fluid mononuclear cells and PBMCs of RA patients was reported.

Calibration Curve: Four-parameter curve fit parameters are depicted.



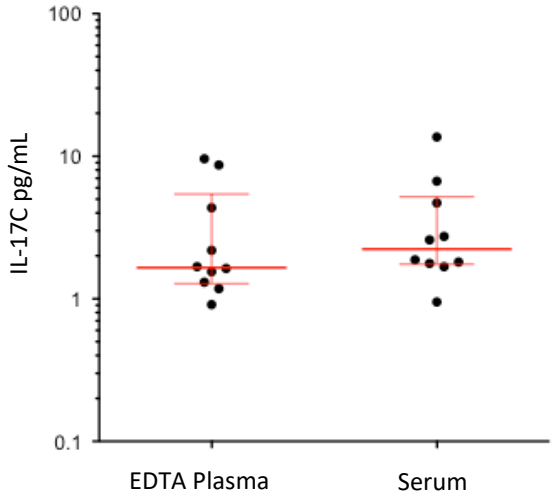
Lower Limit of Quantification (LLOQ): Triplicate measurements of serially diluted calibrator were read back on the calibration curve over 1 reagent lot on 1 instrument (5 runs total).

Limit of Detection (LOD): Calculated as 2.5 standard deviations from the mean of background signal read back on each calibration curve over 1 reagent lot on 1 instrument (5 runs total).

LLOQ	**0.206 pg/mL** pooled CV 13.6% mean recovery 106%
LOD	**0.065 pg/mL** range 0.017–0.108 pg/mL
Dynamic range (serum and plasma)	0–1200 pg/mL
Diluted Sample volume*	100 µL per measurement
Tests per kit	192

***See Kit Instruction for details**

Endogenous Sample Reading: Healthy donor matched EDTA plasma (n=10) and serum (n=10) were measured. Error bars depict median with interquartile range.



Sample Type	Median IL-17C pg/mL	% Above LOD
Serum	2.23	100%
Plasma	1.66	100%

Precision: Representative precision was estimated with repeated assay of serum and plasma panels using one instrument and one reagent lot. Within-run and between-run CVs are depicted in the following table. Within-run CVs reflect average CVs across 5 experiments of 3 replicates each.

Sample	Mean (pg/mL)	Within run CV	Between run CV
Plasma Panel 1	410	4.7%	5.0%
Plasma Panel 2	258	5.3%	9.6%
Serum Panel 3	25.5	4.5%	6.5%
Plasma Panel 4	20.7	5.3%	3.8%

Spike and Recovery: IL-17C spiked into 4 plasma samples at 2 levels.

Dilution Linearity: Spiked, diluted 2x serially from MRD (4x) to 512x with Sample Diluent.

Spike and Recovery (Plasma)	**Mean = 92.2%*** Range: 70–109%
Dilution Linearity (Plasma, 512x)	**Mean = 96.8%*** Range: 90.3–107%

*Not representative of serum; use serum samples with caution