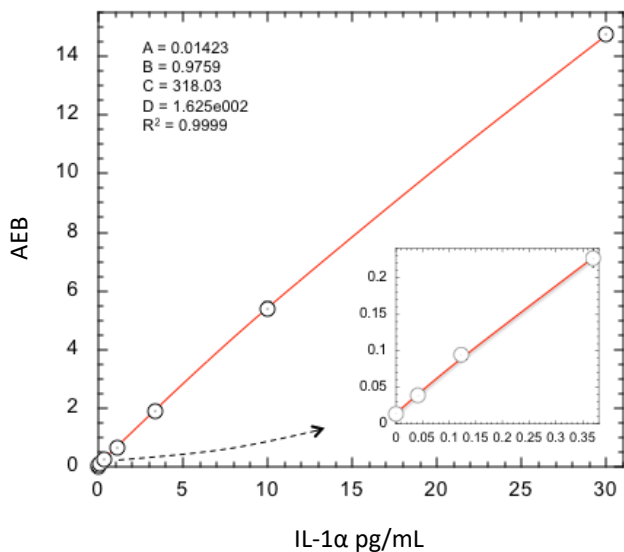**Quanterix™**
The Science of Precision Health

Description

Interleukin 1 alpha (IL-1α), a pro-inflammatory cytokine of 271 amino acids, is mainly produced by activated macrophages, as well as neutrophils, epithelial cells, and endothelial cells. Both the 31 kDa precursor form of IL-1α and its 18 kDa mature form are biologically active. The IL-1α precursor is released upon cell death as occurs in ischemic diseases such as myocardial infarction, stroke, acute renal failure, and tumor necrosis. IL-1α, mediator of inflammatory reactions, is produced in minute quantities and is active in very low concentrations in serum and plasma.

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

A = 0.01423
B = 0.9759
C = 318.03
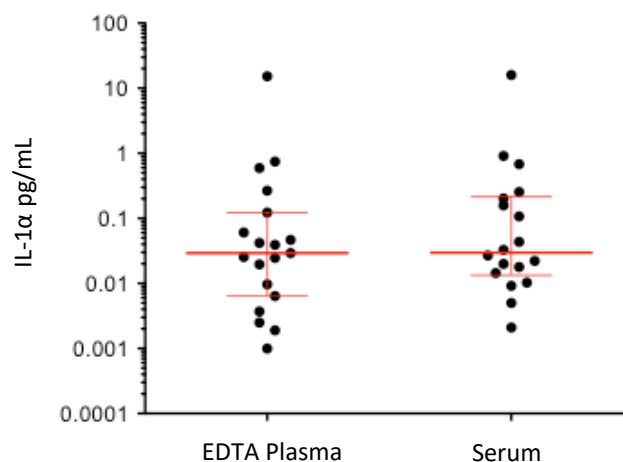D = 1.625e002
R^2 = 0.9999

IL-1α pg/mL

Lower Limit of Quantification (LLOQ): Triplicate measurements of serially diluted calibrator were read back on the calibration curve over 1 reagent lot across 3 instruments (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 across 3 instruments (5 runs total).

LLOQ	**0.010 pg/mL** pooled CV 13.2% mean recovery 104%
LOD	**0.004 pg/mL** range 0.002–0.008 pg/mL
Dynamic range (serum and plasma)	0–60 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=19) and serum (n=18) were measured. Error bars depict median with interquartile range.

Sample Type	Median IL-1α pg/mL
EDTA Plasma	0.0293
Serum	0.0291

Precision: Representative precision was estimated with repeated assay of serum panels using one instrument and one reagent lot. Within-run and between-run CVs across the instrument 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
Serum Panel 1	0.737	10.2%	21.5%
Serum Panel 2	6.36	6.1%	13.1%
Serum Panel 3	82.9	3.9%	14.0%
Serum Panel 4	29.7	4.7%	12.8%

Spike and Recovery: IL-1α spiked into 7 serum samples at 2 levels.

Dilution Linearity: Spiked and stimulated serum samples were diluted 2x serially from MRD (2x) to 128x with Sample Diluent.

Spike and Recovery (Serum)	**Mean = 73.0%** Range: 32.3–95.3%
Dilution Linearity (128x)	**Mean = 77.9%** Range: 59.9–86.7%

Chimera Biotec - Your Official Quanterix Partner
info@chimera-biotec.com
www.chimera-biotec.com