Quanterix™
The Science of Precision Health

Simoa® Mouse TNFα Discovery Kit

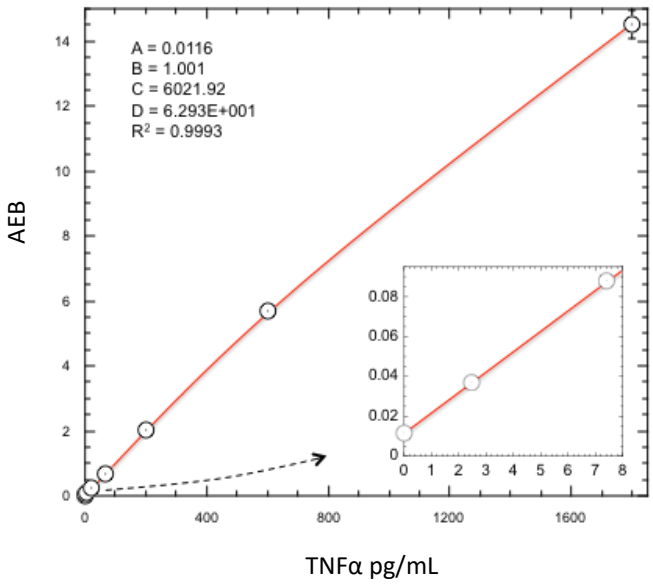
HD-1/HD-X Data Sheet

Item 102100

Description

Mouse tumor necrosis factor alpha (TNFα) is a homotrimeric transmembrane protein that functions as a proinflammatory cytokine. It is produced mainly by macrophages but also by a variety of other cell types, including monocytes, neutrophils, and T-cells. The involvement of TNFα in several signal transduction pathways links the protein to such diverse functions as acute inflammation, apoptosis, septic shock, cellular proliferation, and differentiation. Mouse TNFα is a non-glycosylated protein of 157 amino acids, with a molecular weight of approximately 17,000 daltons. The clinical relevance of TNFα stems from its association with numerous disease states including rheumatoid arthritis, cancer, cachexia, and Crohn's disease.

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



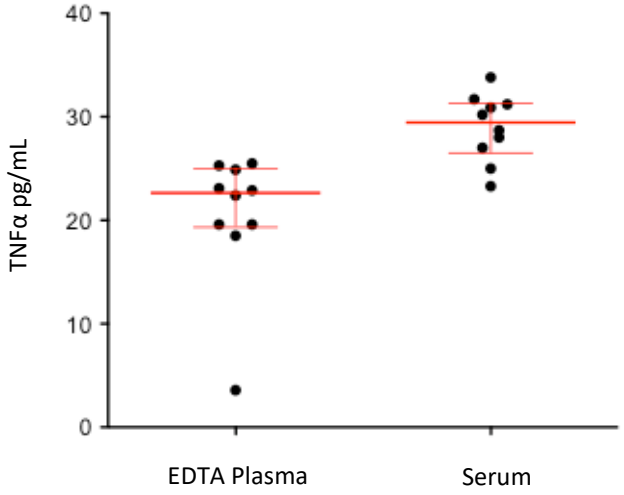
Lower Limit of Quantification (LLOQ): Triplicate measurements of serially diluted calibrator were read back on the calibration curve over 1 reagent lot across 3 instruments (5 runs total).

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	**1.23 pg/mL** pooled CV 19.7% mean recovery 109%
LOD	**0.132 pg/mL** range 0.0741–0.265 pg/mL
Dynamic range (serum and plasma)	0–7200 pg/mL
Diluted Sample volume*	100 µL per measurement
Tests per kit	192

***See Kit Instruction for details**

Endogenous Sample Reading: TNFα in EDTA plasma (n=10) and serum (n=10) from non-medicated, non-immunized mice. Error bars depict median and interquartile ranges.



Sample Type	Median TNFα pg/mL	% Above LOD
EDTA Plasma	22.6	100%
Serum	29.4	100%

Quanterix Corporation
900 Middlesex Turnpike, Billerica, MA 01821
techsupport@quanterix.com

©2016 Quanterix, Inc. Simoa® and Quanterix® are registered trademarks of Quanterix, Inc. For research use only. Not for use in diagnostic procedures.

Precision: Representative precision was estimated with repeated assay of serum 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
Serum Panel 1	23.7	5.1%	8.3%
Serum Panel 2	30.4	7.4%	9.2%
Serum Panel 3	29.1	10.7%	11.3%

Spike and Recovery: TNFα spiked into 4 serum pools at 2 levels.

Dilution Linearity: Serum pool diluted 2x serially from MRD (4x) to 256x with Sample Diluent.

Spike and Recovery (Serum)	**Mean = 83.8%** Range: 73–88%
Dilution Linearity (256x)	**Mean = 113%** Range: 104–121%

Quanterix Corporation
900 Middlesex Turnpike, Billerica, MA 01821
techsupport@quanterix.com

©2016 Quanterix, Inc. Simoa® and Quanterix® are registered trademarks of Quanterix, Inc. For research use only. Not for use in diagnostic procedures.