

## Biology and Disease

Tumor necrosis factor alpha (TNF $\alpha$ ) is a pro-inflammatory cytokine with cytotoxic activity that is primarily produced by macrophages. TNF $\alpha$  is involved in systemic inflammation and is a member of the group of cytokines that stimulate the acute phase reaction. When administered to animals or humans it causes inflammation, fever, cardiovascular effects, hemorrhage, coagulation, and acute phase responses similar to those seen during acute infections and shock states. By promoting the inflammatory response, TNF $\alpha$  is associated with many autoimmune disorders such as rheumatoid arthritis, ankylosing spondylitis, Crohn's disease, psoriasis, and refractory asthma. TNF $\alpha$  also plays a role in cancer and regulates apoptotic cell death, cellular proliferation, differentiation, tumorigenesis, and viral replication.

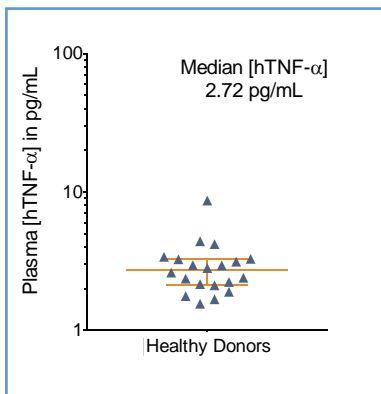
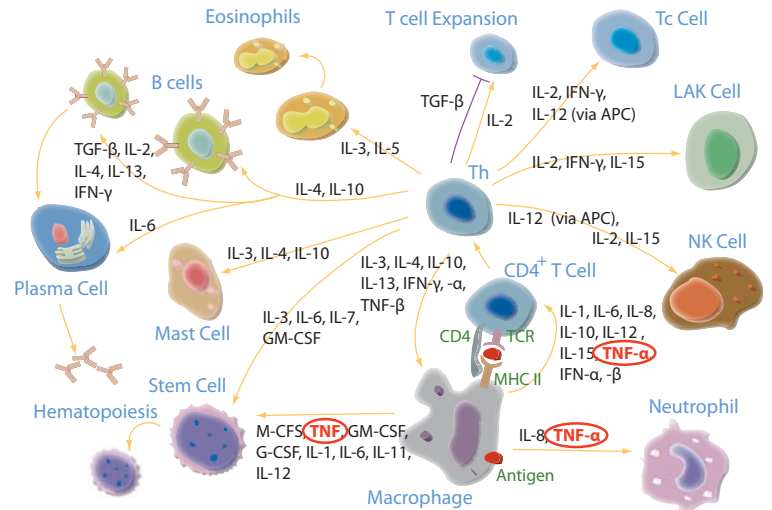


FIGURE 1: [hTNF $\alpha$ ] in EDTA plasma from 20 healthy donors, with median and interquartile range.

The Erenna<sup>®</sup> human TNF $\alpha$  Immunoassay Evaluation Reagent Kit reliably quantifies TNF $\alpha$  in healthy subjects, who have a median [hTNF $\alpha$ ] of 2.72 pg/mL that is well above the detection limit of 0.01 pg/mL.

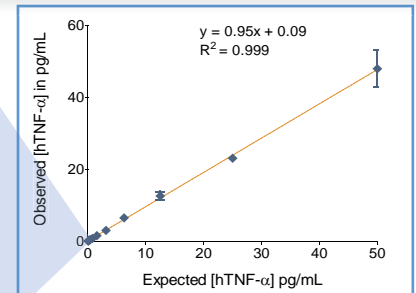
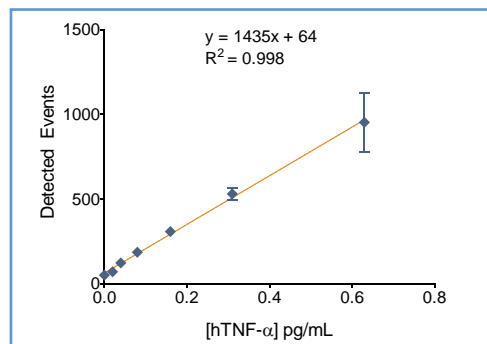


FIGURE 2: Erenna<sup>®</sup> human TNF $\alpha$  Immunoassay Evaluation Reagent Kit low-end standard curve signal (left) and curve fit (above).

TABLE 1: Analytical sensitivity of the Erenna<sup>®</sup> human TNF $\alpha$  Immunoassay Evaluation Reagent Kit<sup>1</sup>

Lower Limit of Detection	0.01 pg/mL
Lower Limit of Quantification <sup>2</sup>	0.1 pg/mL
Upper Limit of Quantification	50 pg/mL
Low-end CV% Range	1 - 14%
Low-end CV% Average	7%
Assay Volume	100 $\mu$ L
Minimum Sample Volume Required <sup>3</sup>	4 $\mu$ L

<sup>1</sup> see product insert for updated values

<sup>2</sup> LLoQ  $\leq$  20% CV and  $\pm$  20% recovery

<sup>3</sup> based upon median [hTNF $\alpha$ ] in a healthy reference population



Representative data shown for demonstration purposes only. Individual results may vary depending upon samples tested and protocol used.