

TEST: HUMAN TNF- α QUANTITATION

PRINCIPLE

The Quantikine high sensitivity (HS) TNF α Immunoassay is a 6.5 hour solid phase ELISA designed to measure TNF- α in serum and plasma. It contains *E. coli*-derived recombinant human TNF- α . Results obtained on naturally occurring TNF- α samples showed linear curves that were parallel to the standard curves obtained using the *E. coli*-expressed Quantakine HS kit standards.

TNF- α is a polypeptide of 157 amino acid residues that is produced by neutrophils, activated T and B lymphocytes, NK cells, LAK cells, astrocytes, endothelial cells, smooth muscle cells and some transformed cells. Evidence suggests that the membrane-anchored form of TNF- α on the surface of macrophages and/monocytes, in addition to serving as a reservoir for release of soluble TNF- α , has lytic activity and may also have an important role in intercellular communication. TNF (α and β) play a critical role in normal host resistance to infections and to the growth of malignant tumors, serving as immunostimulants and as mediators of the inflammatory response. Many of the actions produced by the TNFs are functionally similar to the effects produced by IL-1. Overproduction of TNF has been implicated in playing a role in a number of pathological conditions, including cachexia (progressive wasting), septic shock following infection with Gram-negative bacteria, autoimmune disorders, and meningococcal septicemia.

SPECIMEN REQUIREMENTS:

Collect serum in a serum separator tube (SST) and allow samples to clot for 30 minutes. Centrifuge for 10 minutes at approximately 1000 g. Transfer serum to a separate plastic vial. There should be no red blood cells within the separated serum. Store samples $\leq -20^{\circ}\text{C}$. Avoid repeated freeze-thaw cycles.

Unspun and hemolyzed specimens will be rejected, as they may yield falsely elevated results.

REFERENCES:

Quantikine HS Human TNF- α insert.

Reference Range: 15.6 – 1000 pg/ml.

Turnaround Time: Two weeks