

**DA3542X****Human Tumor necrosis factor (TNF-alpha) - Purified****Alternate names:**

Cachectin, TNF, TNF-a, TNFA, TNFSF2, Tumor necrosis factor ligand superfamily member 2

**Quantity:**

50 µg

**Background:**

Tumor Necrosis Factor Alpha (TNF alpha) is a protein secreted by lipopolysaccharide stimulated macrophages, and causes tumor necrosis when injected into tumour bearing mice. TNF alpha is believed to mediate pathogenic shock and tissue injury associated with endotoxemia. TNF alpha exists as a multimer of two, three, or five noncovalently linked units, but shows a single 17 kDa band following SDS PAGE under non reducing conditions. TNF alpha is closely related to the 25 kDa protein Tumour Necrosis Factor beta (lymphotoxin), sharing the same receptors and cellular actions. TNF alpha causes cytolysis or cytostasis of certain transformed cells, being synergistic with interferon gamma in its cytotoxicity. Although it has little effect on many cultured normal human cells, TNF alpha appears to be directly toxic to vascular endothelial cells. Other actions of TNF alpha include stimulating growth of human fibroblasts and other cell lines, activating polymorphonuclear neutrophils and osteoclasts, and induction of interleukin 1, prostaglandin E2 and collagenase production. TNF alpha is currently being evaluated in treatment of certain cancers and AIDS Related Complex.

**Uniprot ID:**

[P01375](#)

**NCBI:**

[9606](#)

**GeneID:**

[7124](#)

**Species:**

Human

**Source:**

*E. coli*

**Format:**

**State:** Lyophilized purified fraction

**Purity:** >98% by RP-HPLC, Anion-exchange FPLC, Silver stain

**Buffer System:** 20mM PBS, pH 7.2, 10mM NaCl

**Endotoxin Level:** < 0.1 ng per µg (IEU/µg) of rh TNF-alpha

**Reconstitution:** Restore in sterile water to a concentration of 0.1 mg/ml.

This solution can be diluted into other buffered solutions or stored at -20°C for future use.

For most in-vitro applications, TNF-alpha exerts its biological activity in the concentration range of 0.05 to 20.0 ng/ml.

**Description:**

Recombinant Human TNF-a produced in *E. coli* is a single, non-glycosylated polypeptide having a Molecular Mass of 17.4 kDa protein and consisting of 158 amino acid residues.

**Biological Activity:** Human rh TNF-alpha is fully biologically active when compared to standards.

The ED50 as determined by the cytolysis of Murine L929 cells in the presence of Actinomycin-D is < 0.05 ng/ml.

**Specific Activity:** 2 x 10<sup>7</sup> units/mg

**Molecular weight:** 17.48 kDa

**Storage:**

Store lyophilized rh TNF-alpha desiccated at -20°C.

Reconstituted rh TNF-alpha should be stored in working aliquots at -18°C.

For long term storage it is recommended to add a carrier protein (0.1% HAS or BSA).

Avoid repeated freezing and thawing.

Shelf life: One year from despatch.