

# Recombinant Human Tumor Necrosis Factor-alpha (rh TNF-alpha)

**Synonyms:** Tumor necrosis factor ligand superfamily member 2, Cachectin, DIF, TNFSF2, Necrosin, Cytotoxin.

**Introduction:** Tumor necrosis factor is a cytokine involved in systemic inflammation and is a member of a group of cytokines that all stimulate the acute phase reaction. TNFalpha is mainly secreted by macrophages. TNFalpha causes apoptotic cell death, cellular proliferation, differentiation, inflammation, tumorigenesis and viral replication and is also involved in lipid metabolism and coagulation. TNF's primary role is in the regulation of immune cells. Dysregulation and in particular overproduction of TNFalpha have been implicated in a variety of human diseases- autoimmune diseases, insulin resistance and cancer.

**Description:** Recombinant human TNF-alpha produced in *E. Coli* is a single, non-glycosylated polypeptide chain containing 158 amino acids and having a molecular mass of 17483.77 Dalton. The rh TNF-alpha is purified by standard chromatographic techniques.

**Source:** *Escherichia Coli*

**Physical Appearance:** Sterile filtered white lyophilized (freeze-dried) powder.

**Formulation:** Lyophilised from a 0.2 µm filtered solution in 25mM sodium acetate pH 6.5 containing 200mM NaCl.

The aliquots of 1µg contain Trehalose 5% (w/vol) for better recovery.

**Solubility:** It is recommended to reconstitute the lyophilized rh TNF-alpha in sterile H<sub>2</sub>O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

**Stability:** Lyophilized rh TNF-alpha although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rh TNF-alpha should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

**Purity:** Greater than 98.0% as determined by SDS-PAGE.

**Amino Acid Sequence:** The sequence of the first five N-terminal amino acids was determined and was found to be Met-Val-Arg-Ser-Ser.

**Endotoxicity:** The endotoxin level is less than 1 EU / µg determined by LAL method

**Biological Activity:** The ED<sub>50</sub> as determined by the cytolysis of murine L929 cells in the presence of Actinomycin D is < 0.05 ng/ml, corresponding to a specific activity of 2 x 10<sup>7</sup> IU/mg.

This material is offered for **research use only**. Not for use in human. For in vitro use only. ImmunoTools will not be held responsible for patent infringement or other violations that may occur with the use of our products.

<i>small</i>	10 µg	Cat.N°	11343013
<i>medium</i>	50 µg	Cat.N°	11343015
<i>large</i>	250 µg	Cat.N°	11343017
<i>x-large</i>	1000 µg	Cat.N°	11343018

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