

Recombinant Rat Tumor Necrosis Factor-alpha (rr TNF-alpha)

Synonyms: Tumor necrosis factor ligand superfamily member 2 (TNFSF2), Cachectin, DIF.

Introduction: TNFalpha 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. It 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 rat TNF-alpha produced in *E. Coli* is a single, non-glycosylated polypeptide chain containing 157 amino acids and having a molecular mass of 17.34 kDa. The rr TNF-alpha is purified by standard chromatographic techniques.

Source: *Escherichia Coli*

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

Formulation: Lyophilized from a 0.22 µm filtered solution in 25 mM sodium phosphate, 200 mM NaCl, pH 6.5. The sample size of 1 µg contains Trehalose 5% (w/vol) for better recovery.

Solubility: It is recommended to reconstitute the lyophilized rr TNF-alpha in sterile H₂O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rr TNF-alpha although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rr 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 95.0% as determined by SDS-PAGE

Amino Acid Sequence: MLRSSSQNSS DKPVVHVAN HQAEEQLEWL SQRANALLAN GMDLKDNLV VPADGLYLIY SQVLFKQGC PDYVLLTHTV SRFATSYQEK VSLLSAIKSP CPKDTPEGAE LKPWYEPMYL GGVSQLEKGD LLSAEVNLPK YLDITESGQV YFGVIAL.

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

Biological Activity: The ED₅₀ 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 10⁷ IU/mg.

This material is offered for **research 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>	5 µg	Cat.N°	13343010
<i>medium</i>	20 µg	Cat.N°	13343014
<i>large</i>	100 µg	Cat.N°	13343016
<i>x-large</i>	500 µg	Cat.N°	13343017

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