



Recombinant Human TNF-alpha

20200402BB



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no:	300-028
Size:	50 µg
Lot. No.:	According to product label

Scientific Background

Gene:	<i>tnf</i>
Synonyms:	TNF; DIF; TNFA; TNFSF2; TNF-alpha

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. TNF is mainly secreted by macrophages. TNF causes apoptotic cell death, cellular proliferation, differentiation, inflammation, tumorigenesis and viral replication. TNF 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 TNF have been implicated in a variety of human diseases- autoimmune diseases, insulin resistance, and cancer. Human recombinant Tumor Necrosis Factor- α produced in *E. coli* is a single, non-glycosylated, polypeptide chain containing 158 amino acids and having a molecular mass of 17483.77 Dalton.

References

1. Veeraghavan J et al, J Biol Chem 286: 21588-21600, 2011
2. Yuhas Y et al, Infection & Immunity 71/4: 2288-2291, 2003
3. Herschkovitz A et al, J Biol Chem 282: 18018-18027, 2007

Sequence

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MVRSSSRTPS DKPVAHVVAN PQAEGQLQWL NRRANALLAN  
GVELRDNQLV VPSEGLYLIY SQVLFKGGQC PSTHVLTLTHT  
ISRIAVSYQT KVNLLSAIKS PCQRETPEGA EAKPWYEPIY  
LGGVFQLEKG DRLSAEINRP DYLDFAESGQ VYFGIIAL
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Database References

Protein RefSeq:	NP_000585.2
Uniprot ID:	P01375
mRNA RefSeq:	NM_000594

Product Specifications

Expressed in	<i>E. coli</i>
Purity	> 95% by SDS-PAGE and RP-HPLC analysis
Endotoxin level	< 0.1 ng per µg (IEU/µg) of rh TNF-alpha
Buffer	20 mM PB, pH 7.2 + 100 mM NaCl
Stabilizer	None
Formulation	lyophilized
Length (aa):	158
MW:	17.5 kDa

Stability: Lyophilized Tumor Necrosis Factor-alpha although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution 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).

Reconstitution: The lyophilized TNF-alpha is soluble in water and most aqueous buffers. The lyophilized powder can be reconstituted 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.



AVOID REPEATED FREEZE AND THAW CYCLES!

Biological Activity: The ED₅₀ as determined by the cytotoxicity 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.