



Recombinant Rat TNF-alpha

20190814BB



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no.:	R20-013S
Size:	5 µg
Lot. No.:	According to product label

Scientific Background

Gene-ID (NCBI):	24835
Synonyms:	Tnf; Tnfa; RATTNF; TNF-alpha

TNF- α is a pleiotropic pro-inflammatory cytokine secreted by various cells, including adipocytes, activated monocytes, macrophages, B cells, T cells and fibroblasts. It belongs to the TNF family of ligands, and signals through two receptors, TNFR1 and TNFR2. TNF- α is cytotoxic to a wide variety of tumor cells, and is an essential factor in mediating the immune response against bacterial infections. TNF- α also plays a role in the induction of septic shock, autoimmune diseases, rheumatoid arthritis, inflammation, and diabetes. Human and murine TNF- α demonstrate significant cross-species reactivity. TNF- α exists in two forms; a type II transmembrane protein, and a mature soluble protein. The TNF- α transmembrane protein is proteolytically cleaved to yield a soluble, biologically active, 17 kDa TNF- α , which forms a non-covalently linked homotrimer in solution. Recombinant Rat TNF- α is a soluble 157 amino acid protein (17.3 kDa) which corresponds to C-terminal extracellular domain of the full length transmembrane protein.

Sequence

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MLRSSSQNSS DKPVAHVVAN HQAEEQLEWL SQRANALLAN
GMDLKDNQLV VPADGLYLIY SQVLFKGGCC PDYVLLTHTV
SRFAISYQEK VSLLSAIKSP CPKDTPEGAE LKPWYEFMYL
GGVFQLEKGD LLSAEVNLPK YLDITESGQV YFGVIAL
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Database References

Protein RefSeq:	NP_036807
Uniprot ID:	P16599
mRNA RefSeq:	NM_012675

Product Specifications

Expressed in	E. coli
Purity	> 98% by SDS-PAGE & HPLC analyses
Endotoxin level	< 0.1 ng /µg of protein (<1EU/µg).
Formulation	Lyophilized (0.5x PBS, pH 7.1)
Length (aa):	157
MW:	17.3 kDa

Stability: The lyophilized protein is stable at room temperature for 1 month and at 4°C for 6 months. Reconstituted working aliquots are stable for 1 week at 2°C to 8°C and for 12 months at -20°C to -80°C.

Reconstitution: Centrifuge the vial prior to opening. Reconstitute in water to a concentration of 0.1-1.0 mg/ml. *Do not vortex.* This solution can be stored at 2-8°C for up to 1 week. For extended storage, it is recommended to further dilute in a buffer containing a carrier protein (example 0.1% BSA) and store in working aliquots at -20°C to -80°C.



AVOID REPEATED FREEZE AND THAW CYCLES!

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 $\geq 2 \times 10^7$ units/mg.