

Active Recombinant Human TNFa

Cat. No. TNF-39H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human TNF alpha protein (rhTNFa) Val77-Leu233 was produced in human HEK293 cells.
Species	Human
Source	HEK293
ProteinLength	77-233 a.a.
Description	This gene encodes a multifunctional proinflammatory cytokine that belongs to the tumor necrosis factor (TNF) superfamily. This cytokine is mainly secreted by macrophages. It can bind to, and thus functions through its receptors TNFRSF1A/TNFR1 and TNFRSF1B/TNFR. This cytokine is involved in the regulation of a wide spectrum of biological processes including cell proliferation, differentiation, apoptosis, lipid metabolism, and coagulation. This cytokine has been implicated in a variety of diseases, including autoimmune diseases, insulin resistance, and cancer. Knockout studies in mice also suggested the neuroprotective function of this cytokine.
Form	Bulk protein in a 0.22 µm filtered solution of PBS, pH 7.4 and delivered as liquid formulation or lyophilized powder. Normally 5-8% trehalose and mannitol are added as protectants before lyophilization.
Bio-activity	The bio-activity was determined by its cytotoxicity assay using L929 Cells with 1µg/ml actinomycin D. ED50<25pg/ml, corresponding to a specific activity of >4X10 ⁷

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	Unit/mg
Molecular Mass	rhTNFa, without any tag, has a calculated MW of 17.4 kDa expressed. The predicted N-terminus is Val77. Protein migrates as 18 kDa in reduced SDS-PAGE. The gel filtration analysis indicates that only HEK293 expressed TNF alpha protein is trimeric form, which has a molecular mass of 54 kDa.
Endotoxin	Less than 1.0 EU per 1 µg of the rhTNFa by the LAL method.
Purity	>98% as determined by SDS-PAGE. All lots are greater than 95% pure.
Storage	Store at -20° in lyophilized state after receipt. For long term storage, upon reconstitution rhTNFa should be aliquot and store at -20° or -80°. Avoid repeated freeze-thaw cycles.

GENE INFORMATION

Gene Name	TNF tumor necrosis factor [Homo sapiens]
Official Symbol	TNF
Synonyms	TNF; tumor necrosis factor; tumor necrosis factor (TNF superfamily, member 2); DIF; TNFA; TNFSF2; TNF-alpha; Cachectin; OTTHUMP00000037669; TNF-a; APC1 protein; TNF superfamily, member 2; TNF, macrophage-derived; TNF, monocyte-derived; Tumor necrosis factor ligand superfamily member 2; Tumor necrosis factor precursor; tumor necrosis factor (cachectin); tumor necrosis factor alpha; tumor necrosis factor, alpha (cachectin)
Gene ID	7124
mRNA Refseq	NM_000594

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Protein Refseq	NP_000585
MIM	191160
UniProt ID	P01375
Chromosome Location	6p21.3
Pathway	Adipocytokine signaling pathway; AhR pathway; Alzheimer's disease
Function	Cytokine activity; Identical protein binding; Tumor necrosis factor receptor binding

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