

**Product:** **Recombinant Human TNF $\alpha$**   
**Cat #: 300-193P**  
Powder

Description	Tumor Necrosis Factor alpha (TNF $\alpha$ ) is an inflammatory cytokine secreted by macrophages, monocytes, neutrophils, T cells, NK-cells following their stimulation by bacterial LPS. TNF $\alpha$ activates signals through two receptors, TNFR1, which is expressed on most cell types, and TNFR2, which is expressed mainly on immune cells. TNF $\alpha$ can have many functions including, to stimulate of phagocytosis in macrophages, to chemoattract neutrophils, to increase insulin resistance and to induce fever. Alternate names: TNFSF2, Cachectin, DIF, Necrosin, Cytotoxin, Cachexin, TNF
MW	Non-glycosylated protein, containing 158 amino acids, with a molecular weight of 17.5 kDa.
Physical Appearance	Sterile filtered white lyophilized (freeze-dried) powder.
Source	<i>E. coli</i>
Formulation	Recombinant human TNF- $\alpha$ is lyophilized from a concentrated solution (1mg/mL) with 10 mM Na <sub>2</sub> PO <sub>4</sub> , pH 8.0 and 20 mM NaCl.
Reconstitution	Centrifuge vial before opening. When reconstituting the product, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution. It is recommended to reconstitute the lyophilized product with sterile water at a concentration of 0.1 mg/mL, which can be further diluted into other aqueous solutions.
Stability	Lyophilized product is very stable at -20°C. Reconstituted material should be aliquoted and frozen at -20°C. It is recommended that a carrier protein (0.1% HSA or BSA) is added for long term storage.
Biological Activity	The activity is determined by the cytolysis of mouse L929 cells in the presence of Actinomycin D and is typically less than 0.05 ng/mL.
Endotoxin Level	Measured by kinetic LAL analysis and is typically $\leq$ 1 EU/ $\mu$ g protein.
AA Sequence	VRSSSRTPSD KPAHVVANP QAEGQLQWLN RRANALLANG VELRDNQLVV PSEGLYLIYS QVLFKGGQCP STHVLLTHTI SRIAVSYQTK VNLLSAIKSP CQRETPEGAE AKPWYEPIYL GGVFQLEKGD RLSAEINRPD YLDFAESGQV YFGIIAL

Purity greater than 98% determined by HPLC, Reducing and Non-reducing SDS-PAGE, UV spectroscopy at 280 nm.

Protein content determined by HPLC, Reducing and Non-reducing SDS-PAGE, UV spectroscopy at 280 nm.

**THIS PRODUCT IS FOR RESEARCH USE ONLY AND IS NOT FOR USE IN HUMANS!**