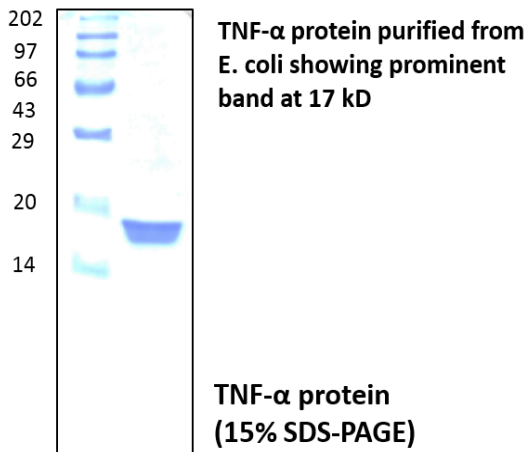# Recombinant Human TNF α Protein

Tumor necrosis factor-α (TNF-α) also known as cachectin, is a pleiotropic cytokine secreted mainly by monocytes and macrophages. It is a trimetric protein encoded within the major histocompatibility complex. It is expressed as a 26 kDa membrane bound protein and is then cleaved by TNF-α converting Genzyme (TACE) to release the soluble 17 kDa monomer, which forms homotrimers in circulation. TNF-α plays a major role in antitumor activity, inflammation, immune system development, apoptosis, anorexia, cachexia, septic shock, viral replication and lipid metabolism. TNF-α also shows antiviral effects against both DNA and RNA Viruses and it induces production of several other cytokines.

Product Details

Catalog no.	RTNF001
Molecular weight	17.4kDA
Amino acid sequence (77-233)	VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQVLFKGQGCPS THVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYLGGVFQLEKGDRLSAEINRPDYLDFAE SGQVYFGIIAL
Host	E.coli
Formulation	10mM Tris-HCl, pH 8.5 + 0.1% Glucose
Conjugate/ Tag	C-terminus 6 × His tag
Purity	> 95% Purity, purified by Ni NTA and determined by SDS-PAGE
Form	Liquid/ Lyophilized
Biological activity	ED50 in the range of 100pg/ml as determined by the dose dependent cytotoxic effect on murine L929 cells in the presence of Actinomycin D
Applications	Functional studies, drug discovery, protein for research purposes
Storage	Store at -20ºC and avoid freeze thaw. Stable for 12 months from the date of receipt if kept at recommended temperature
Suggested working dilution	The optimal concentration should be determined for each specific application

SDS PAGE Gel image of TNF-α protein

TNF-α protein purified from E. coli showing prominent band at 17 kD

TNF-α protein
(15% SDS-PAGE)

Quality control assay

The IC_{50} value (i.e., the concentration of Cytotoxic agent necessary to decrease cell growth by 50%) for TNF α is determined by MTT bioassay using murine L929 cells. The IC_{50} value was noted to be **100pg/ml** in presence of Actinomycin D.