

Recombinant Human TNF- α Protein

Catalog Number: GMP-TL303

Product Name

Generic Name	Recombinant Human TNF- α Protein
Synonym	DIF, TNF-alpha, TNFA, TNFSF2, cachexin, cachectin, TNF α

Product Information

Protein sequence	A DNA sequence encoding the human TNF- α (GenBank: ADV31546.2 V77-L233) was expressed with a polyhistidine tag at the C- terminus.
Expression Host	HEK293 cells
QC Testing Purity	> 90% as determined by SDS-PAGE
Activity	Measured in a cytotoxicity assay using L-929 mouse fibroblast cells in the presence of actinomycin D. The ED ₅₀ for this effect is \leq 5 ng/mL.
Endotoxin Level	< 0.1 EU per μ g of the protein as determined by the LAL method.
Molecular Mass	The Recombinant protein predicts a molecular mass of 18.2 kD.
Formulation	Lyophilized from sterile PBS, pH 7.4. Normally 6 % mannitol are added as protectants before lyophilization.
Stability & Storage	24 months at 2 °C to 8 °C in lyophilized state. 6 months at -20 °C under sterile conditions after reconstitution. 12 months at -80 °C under sterile conditions after reconstitution. Recommend to aliquot the protein into smaller quantities after reconstituting with water for injection, normal saline or PBS, and keep the diluted concentration above 100 μ g/mL. Avoid repeated freeze-thaw cycles.

Background

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. TNF- α is produced mainly by macrophages. Large amounts of TNF- α are released in response to lipopolysaccharide, other bacterial products, and Interleukin-1 (IL-1). TNF- α is involved in fighting against tumorigenesis. It is regarded as a potential protein of cancer treatment.

References

- Hector J, *et al.* (2007) TNF- α alters visfatin and adiponectin levels in human fat. *Horm Metab Res.* 39(4): 250-5.
- Berthold-Losleben M, *et al.* (2008) The TNF- α System: Functional Aspects in Depression, Narcolepsy and Psychopharmacology. *Curr Neuropharmacol.* 6(3): 193-202.
- Zelová H, Hošek J (2013) TNF-alpha signalling and inflammation: interactions between old acquaintances. *Inflamm Res* 62: 641–651