

## TNF alpha Protein, Human, Recombinant

#Cat: NB-64-56116-50µg	Size: 50µg
#Cat: NB-64-56116-10µg	Size: 10µg
#Cat: NB-64-56116-20µg	Size: 20µg
#Cat: NB-64-56116-100µg	Size: 100µg

### General Information

<b>Synonyms:</b>	TNFA; TNFSF2; TNF-alpha; TNF-α; DIF; tumor necrosis factor
<b>Protein Construction</b>	A DNA sequence encoding the human TNF-α soluble form (NP_000585.2) (Val 77-Leu 233) was expressed, with an initial Met at the N-terminus. Predicted N terminal: Met
<b>Species</b>	Human
<b>Expression Host</b>	E. coli
<b>Accession</b>	P01375
<b>Molecular Weight</b>	17.5 kDa (predicted); 17.5 kDa (reducing conditions)

### QC Testing

<b>Biological Activity</b>	1. Measured in a cytotoxicity assay using L929 mouse fibrosarcoma cells in the presence of the metabolic inhibitor actinomycin D. The ED50 for this effect is typically 3-30 pg/mL. 2. Captured Adalimumab on Anti-human IgG Fc via CM5 Chip can TNF-α with an affinity constant of 0.2843 nM as determined in a SPR assay (Routinely tested).
<b>Purity</b>	≥ 95 % as determined by SDS-PAGE. ≥ 95 % as determined by SEC-HPLC.
<b>Endotoxin</b>	< 5 EU/mg of the protein as determined by the LAL method.
<b>Formulation</b>	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

#### Reconstitution

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

#### Stability & Storage

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze thaw cycles and store products in aliquots.

#### Shipping

In general, Lyophilized powders are shipping with blue ice.

## Protein Background

Tumor necrosis factor alpha (TNF-alpha), also known as TNF, TNFA or TNFSF2, is the prototypic cytokine of the TNF superfamily, and is a multifunctional molecule involved in the regulation of a wide spectrum of biological processes including cell proliferation, differentiation, apoptosis, lipid metabolism, and coagulation. Two receptors, TNF-R1 (TNF receptor type 1; CD120a; p55/60) and TNF-R2 (TNF receptor type 2; CD120b; p75/80), bind to TNF-alpha. TNF-alpha protein is produced mainly by macrophages, and large amounts of this cytokine are released in response to lipopolysaccharide, other bacterial products, and Interleukin-1 (IL-1). TNF-alpha is involved in fighting against the tumorigenesis, thus, is regarded as a molecular insight in cancer treatment. TNF alpha Protein & Antibody Cancer Immunotherapy Immune Check Point Immunotherapy Targeted Therapy

## Reference

Hector J, et al. (2007) TNF-alpha alters visfatin and adiponectin levels in human fat. Horm Metab Res. 39(4): 250-5. Berthold-Losleben M, et al. (2008) The TNF-alpha System: Functional Aspects in Depression, Narcolepsy and Psychopharmacology. Curr Neuro pharmacol. 6(3): 193-202.