

Recombinant Human TNF-alpha Protein

Catalog No.: RP00001 **Recombinant** **1 Publications**

Sequence Information

Species	Gene ID	Swiss Prot
Human	7124	P01375

Tags

C-His

Synonyms

TNF; DIF; TNF-alpha; TNFA; TNFSF2; TNLG1F; tumor necrosis factor; TNF- α ; DIF; TNF-alpha; TNFA; TNFSF2; TNLG1F; TNF alpha

Product Information

Source	Purification
<i>E. coli</i>	> 97% by SDS-PAGE.

Calculated MW	Observed MW
18.19 kDa	17 kDa

Endotoxin

< 0.1 EU/ μ g of the protein by LAL method.

Formulation

Lyophilized from a 0.22 μ m filtered solution of PBS, pH 7.4. Contact us for customized product form or formulation.

Reconstitution

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

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Background

Tumor necrosis factor alpha (TNF-alpha), also known as TNF, TNFA or TNFSF2, is the prototypic cytokine of the 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. KNoockout studies in mice also suggested the neuroprotective function of this cytokine.

Basic Information

Description

Recombinant Human TNF-alpha Protein is produced by *E. coli* expression system. The target protein is expressed with sequence (Val77-Leu233) of human TNF-alpha (Accession #NP_000585.2) fused with an initial Met at the N-terminus and a 6xHis tag at the C-terminus.

Bio-Activity

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 2.4-9.6 pg/mL, corresponding to a specific activity of 1.04 \times 10⁸~4.16 \times 10⁸ units/mg.

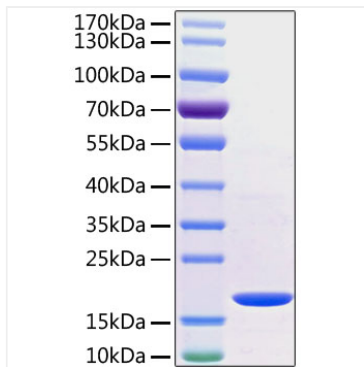
Storage

Store at -20°C. Store the lyophilized protein at -20°C to -80 °C up to 1 year from the date of receipt.

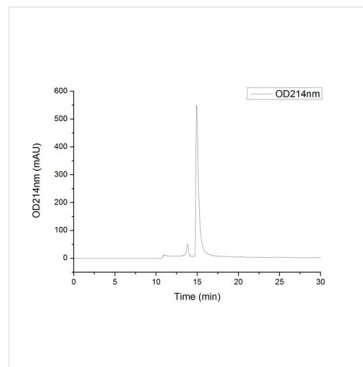
After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week.

Avoid repeated freeze/thaw cycles.

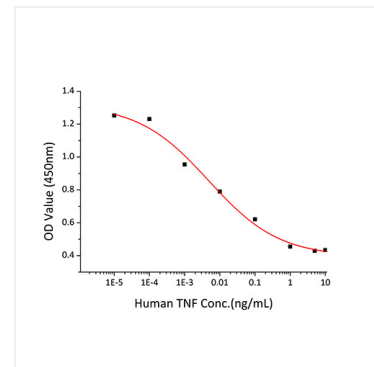
Validation Data



Active Recombinant Human TNF-alpha Protein was determined by SDS-PAGE with Coomassie Blue, showing a band at 17 kDa.



The purity of Human TNF-alpha Protein (Cat.RP00001) was greater than 90% as determined by SEC-HPLC.



Recombinant Human TNF-alpha induces cytotoxicity in the L-929 mouse fibroblast cells in the presence of the metabolic inhibitor actinomycin D. The ED_{50} for this effect is typically 2.4-9.6 $\mu\text{g/mL}$, corresponding to a specific activity of $1.04 \times 10^6 \sim 4.16 \times 10^6$ units/mg.