Biotinylated Human TNF-alpha Protein, His,Avitag™, active trimer (MALS verified)

Catalog # TNA-H82E3

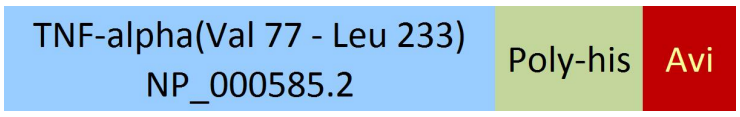
Synonym

DIF,TNF-alpha,TNFA,TNFSF2,cachexin,cachectin,TNFα

Source

Biotinylated Human TNF-alpha, His,Avitag(TNA-H82E3) is expressed from human 293 cells (HEK293). It contains AA Val 77 - Leu 233 (Accession # NP_000585.2).
Predicted N-terminus: Val 77

Molecular Characterization



This protein carries a polyhistidine tag at the C-terminus, followed by an Avi tag (Avitag™).

The protein has a calculated MW of 20.0 kDa. The protein migrates as 21 kDa when calibrated against Star Ribbon Pre-stained Protein Marker under reducing (R) condition (SDS-PAGE) due to glycosylation.

Labeling

Biotinylation of this product is performed using Avitag™ technology. Briefly, the single lysine residue in the Avitag is enzymatically labeled with biotin.

Protein Ratio

Passed as determined by the HABA assay / binding ELISA.

Endotoxin

Less than 1.0 EU per μg by the LAL method / rFC method.

Purity

>95% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

Formulation

Lyophilized from 0.22 μm filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage

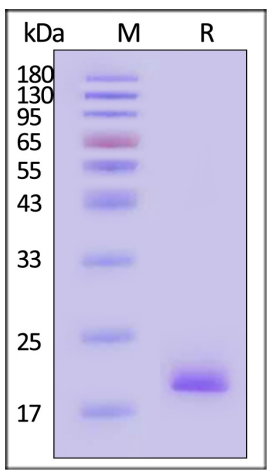
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

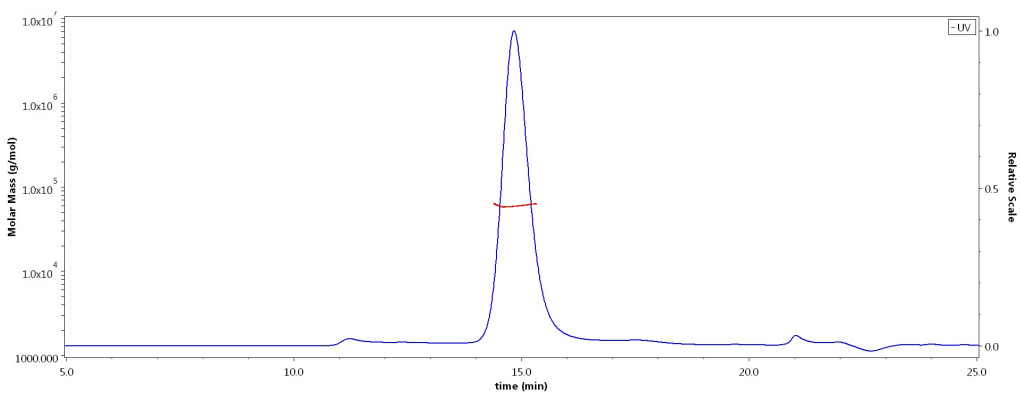
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 12 months under sterile conditions after reconstitution.

SDS-PAGE



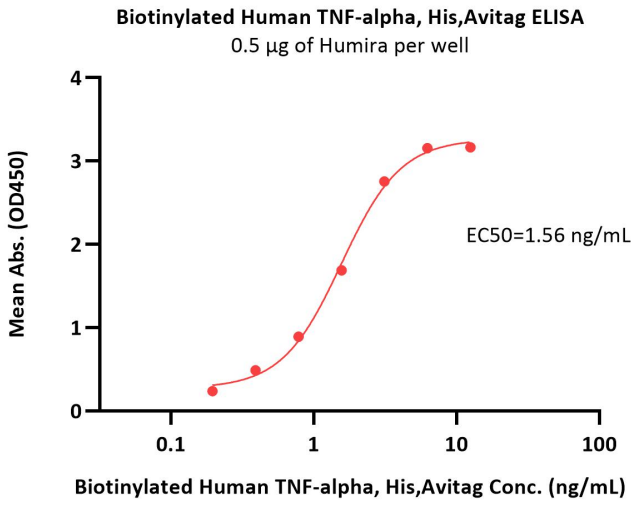
Biotinylated Human TNF-alpha, His,Avitag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With Star Ribbon Pre-stained Protein Marker).

SEC-MALS

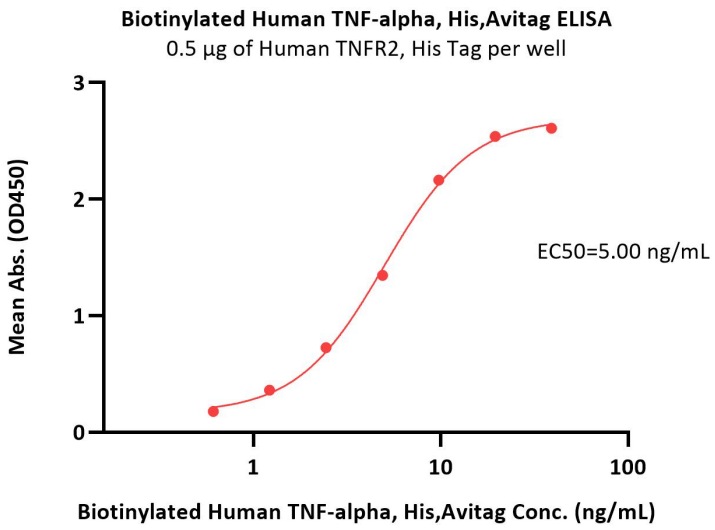


The purity of Biotinylated Human TNF-alpha, His,Avitag (Cat. No. TNA-H82E3) is more than 90% and the molecular weight of this protein is around 60-75 kDa verified by SEC-MALS.
Report

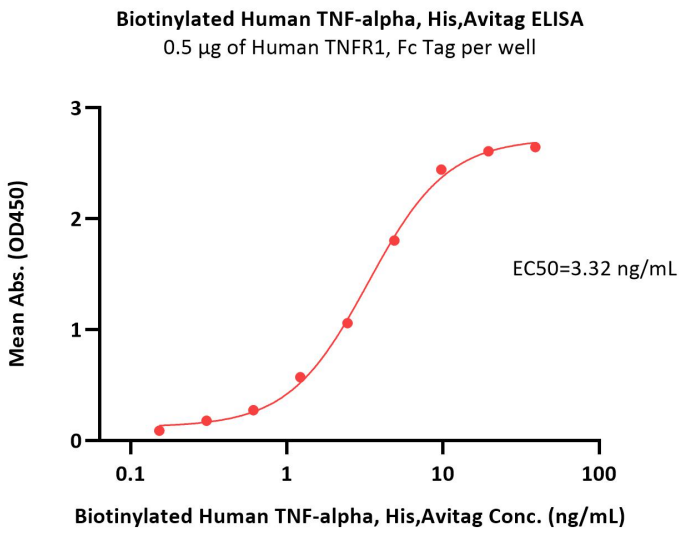
Bioactivity-ELISA



Immobilized Humira at 5 μg/mL (100 μL/well) can bind Biotinylated Human TNF-alpha, His,Avitag (Cat. No. TNA-H82E3) with a linear range of 0.1-3 ng/mL (QC tested).

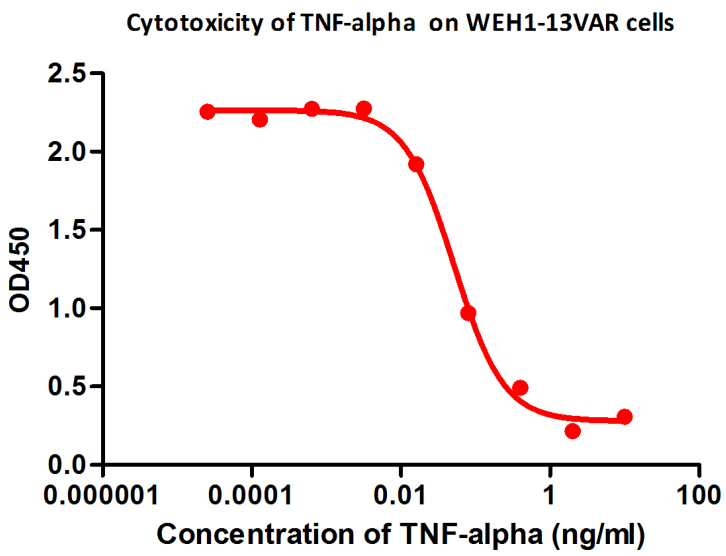


Immobilized Human TNFR2, His Tag (Cat. No. TN2-H5227) at 5 μg/mL (100 μL/well) can bind Biotinylated Human TNF-alpha, His,Avitag (Cat. No. TNA-H82E3) with a linear range of 0.6-10 ng/mL (Routinely tested).

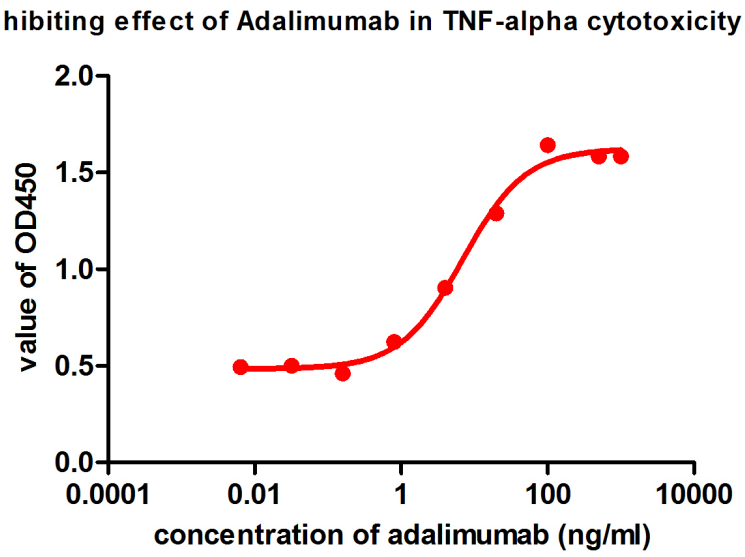


Immobilized Human TNFR1, Fc Tag (Cat. No. TN1-H5251) at 5 μg/mL (100 μL/well) can bind Biotinylated Human TNF-alpha, His,Avitag (Cat. No. TNA-H82E3) with a linear range of 0.2-5 ng/mL (Routinely tested).

Bioactivity-CELL BASE



Biotinylated Human TNF-alpha, His,Avitag (Cat.No. TNA-H82E3) induces cytotoxicity effect on the WEH1-13VAR cells in the presence of the metabolic inhibitor actinomycin D. The EC50 for this effect is 0.029-0.052 ng/mL (Routinely tested).



Neutralization assay shows that the cytotoxicity effect of Biotinylated Human TNF-alpha, His,Avitag (Cat. No. TNA-H82E3) was inhibited by increasing concentration of Adalimumab. The concentration of TNF-alpha used is 1 ng/mL. The IC50 is 7 ng/mL (Routinely tested).

Background

Tumor necrosis factor alpha (TNFα) is a cytokine produced primarily by monocytes and macrophages. It is found in synovial cells and macrophages in the tissues.The primary role of TNFα is in the regulation of immune cells. TNFα is able to induce apoptotic cell death, to induce inflammation, and to inhibit tumorigenesis and viral replication. Dysregulation of TNFα production has been implicated in a variety of human diseases, including major depression, Alzheimer's disease and cancer. Recombinant TNFα is used as an immunostimulant under the INN tasonermin. TNFα can be produced ectopically in the setting of malignancy and parallels parathyroid hormone both in causing secondary hypercalcemia and in the cancers with which excessive production is associated.