

# Human TNF alpha Protein

Cat. No. TNF-HM40A

## Description

<b>Source</b>	Recombinant Human TNF alpha Protein is expressed from HEK293 with His tag and Avi tag at the C-Terminus. It contains Val77-Leu233.
<b>Accession</b>	P01375
<b>Molecular Weight</b>	The protein has a predicted MW of 20.3 kDa. Due to glycosylation, the protein migrates to 21-25 kDa based on Bis-Tris PAGE result.
<b>Endotoxin</b>	Less than 1EU per µg by the LAL method.
<b>Purity</b>	> 95% as determined by Bis-Tris PAGE > 95% as determined by HPLC

## Formulation and Storage

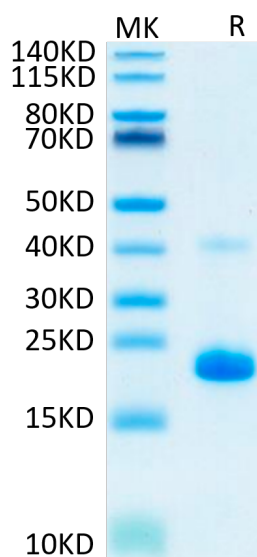
<b>Formulation</b>	Lyophilized from 0.22µm filtered solution in PBS (pH 7.4). Normally 8% trehalose is added as protectant before lyophilization.
<b>Reconstitution</b>	Centrifuge the tube before opening. Reconstituting to a concentration more than 100 µg/ml is recommended. Dissolve the lyophilized protein in distilled water.
<b>Storage</b>	-20 to -80°C for 12 months as supplied from date of receipt. -80°C for 3 months after reconstitution. Recommend to aliquot the protein into smaller quantities for optimal storage. Please minimize freeze-thaw cycles.

## Background

Tumor necrosis factor alpha (TNF-alpha), also known as cachectin and TNFSF2, is the prototypic ligand of the TNF superfamily. It is a pleiotropic molecule that plays a central role in inflammation, immune system development, apoptosis, and lipid metabolism. Cytokine that binds to TNFRSF1A/TNFR1 and TNFRSF1B/TNFR. It is mainly secreted by macrophages and can induce cell death of certain tumor cell lines. It is potent pyrogen causing fever by direct action or by stimulation of interleukin-1 secretion and is implicated in the induction of cachexia, Under certain conditions it can stimulate cell proliferation and induce cell differentiation.

## Assay Data

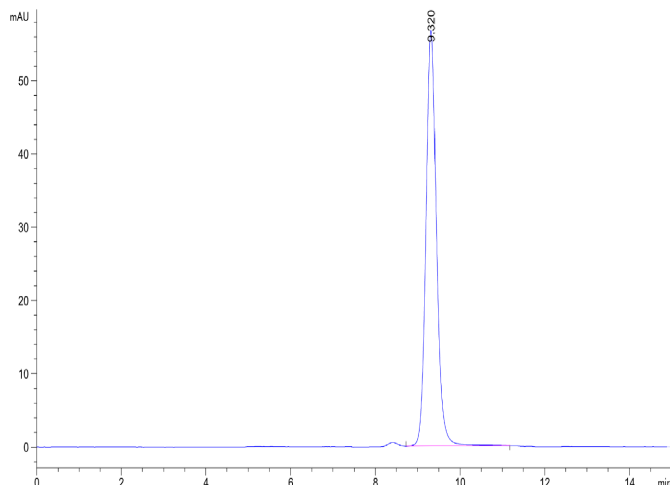
### Bis-Tris PAGE



Human TNF alpha on Bis-Tris PAGE under reduced condition. The purity is greater than 95%.

### SEC-HPLC

Assay Data

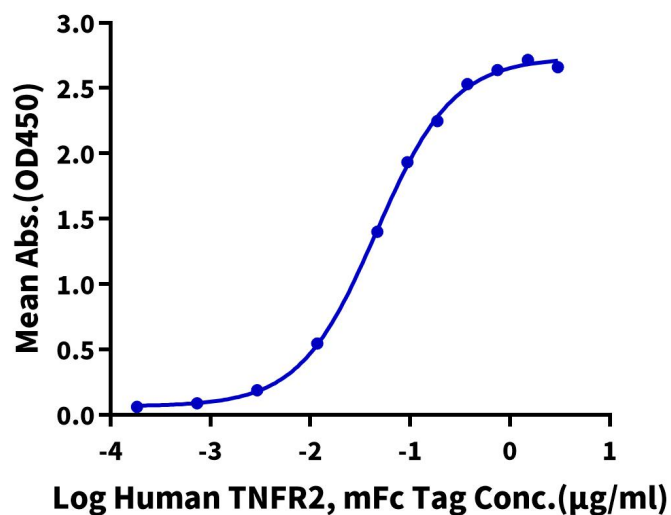


The purity of Human TNF alpha is greater than 95% as determined by SEC-HPLC.

ELISA Data

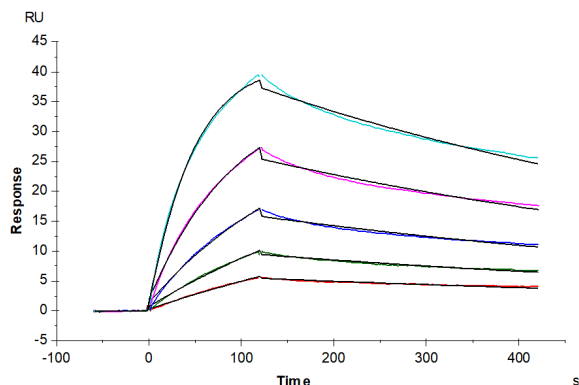
**Human TNF alpha, His Tag ELISA**

0.5µg Human TNF alpha, His Tag Per Well



Immobilized Human TNF alpha, His Tag at 5µg/ml (100µl/well) on the plate. Dose response curve for Human TNFR2, mFc Tag with the EC50 of 45.8ng/ml determined by ELISA (QC Test).

SPR Data



Human TNF alpha, His Tag captured on CM5 Chip via anti-his antibody can bind Human TNFR2, mFc Tag with an affinity constant of 1.62 nM as determined in SPR assay (Biacore T200).