

Human TNF-alpha Protein, His Tag, active trimer

Catalog # TNA-H5228AI



Application

Human TNF-alpha Protein, His Tag AIDD-Ready protein is designed for direct use in SPR assays. It is supplied in a sugar-free, glycerol-free formulation to eliminate refractive index interference in SPR. No desalting or buffer exchange is required before use, simplifying the SPR workflow and supporting high-throughput experimental validation to accelerate the transition from AI prediction to wet-lab validation.

Features and Advantages

- **Directly compatible with SPR:** No desalting or buffer exchange required; supplied as a liquid to reduce sample preparation and improve experimental efficiency.
- **High batch-to-batch consistency:** Each lot is released using SPR QC to ensure experimental reproducibility.
- **Validated with representative drugs:** SPR binding activity is validated using representative drug antibodies to ensure suitability for drug screening and evaluation.

Synonyms

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

Source

Human TNF-alpha Protein, His Tag (TNA-H5228AI) is expressed from human 293 cells (HEK293). It contains AA Val 77 - Leu 233 (Accession # [P01375-1](#)).

Predicted N-terminus: Val 77

Molecular Characterization

TNF-alpha (Val 77 - Leu 233)
P01375-1

Poly-His

This protein carries a polyhistidine tag at the C-terminus.

The protein has a calculated MW of 18.3 kDa. The protein migrates as 17-18 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE).

The protein is designed as a trimer.

Purity

>95% as determined by SDS-PAGE.

>95% as determined by SEC-MALS.

Formulation

Formulated in a proprietary trehalose-free buffer, supplied ready-to-use for SPR/BLI analysis - no buffer exchange required.

For detailed formulation, please refer to the batch-specific COA.

Shipping and Storage

This product is supplied and shipped on dry ice.

Please avoid repeated freeze-thaw cycles.

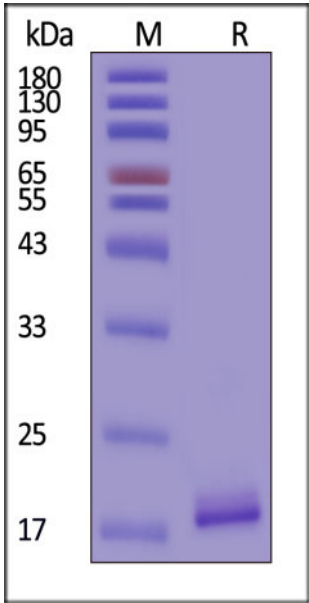
This product is stable after storage at:

- The product **MUST** be stored at -70°C or lower upon receipt;
- -70°C for 12 months under sterile conditions.

ACRO Quality Management System

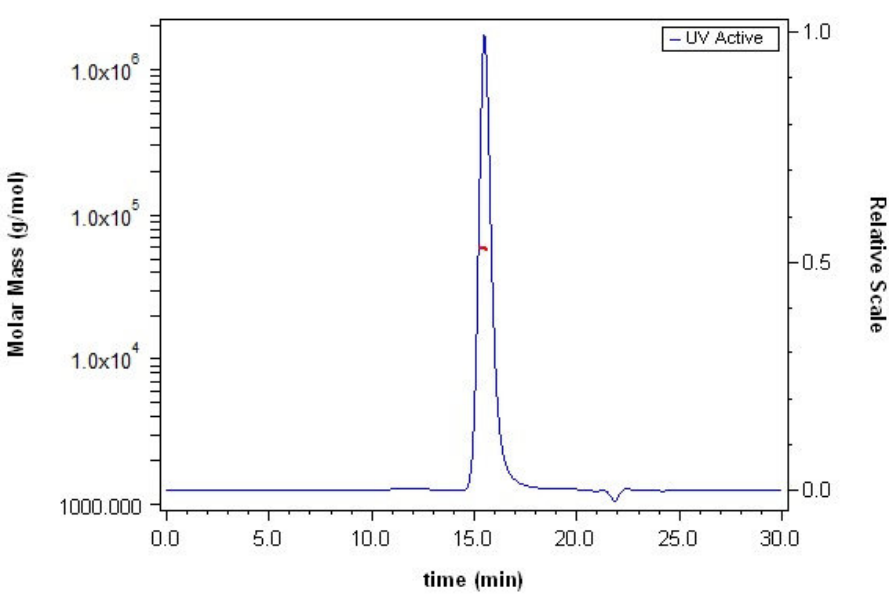
- [QMS\(ISO, GMP\)](#)
- [Quality Advantages](#)
- [Quality Control Process](#)

SDS-PAGE



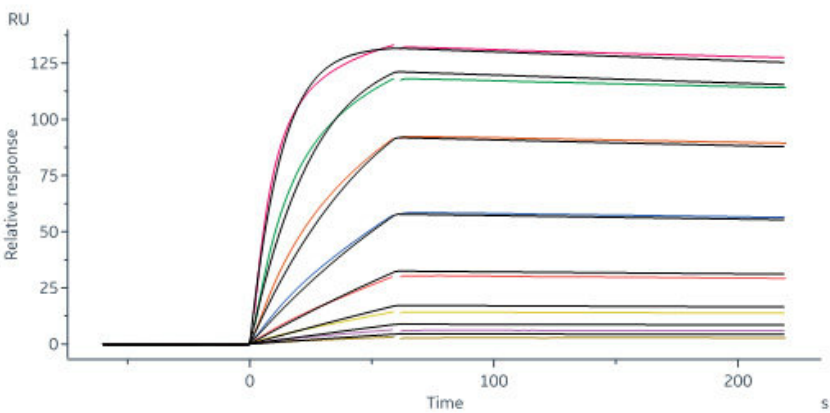
Human TNF-alpha Protein, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With [Star Ribbon Pre-stained Protein Marker](#)).

SEC-MALS



The purity of Human TNF-alpha Protein, His Tag (Cat. No. TNA-H5228AI) is more than 95% and the molecular weight of this protein is around 50-70 kDa verified by SEC-MALS.

Activity-SPR



Adalimumab captured on Protein A Chip can bind Human TNF-alpha Protein, His Tag (Cat. No. TNA-H5228AI) with an affinity constant of 0.694 nM as determined in a SPR assay (Biacore 8K) (QC tested).

Background

Tumor necrosis factor alpha (TNF α) is a cytokine produced primarily by monocytes and macrophages. It is found in synovial cells and macrophages in the tissues. The primary role of TNF α is in the regulation of immune cells. TNF α is able to induce apoptotic cell death, to induce inflammation, and to inhibit tumorigenesis and viral replication. Dysregulation of TNF α production has been implicated in a variety of human diseases, including major depression, Alzheimer's disease and cancer. Recombinant TNF α is used as an immunostimulant under the INN tasonermin. TNF α 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.



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