

# Monoclonal Anti-TNF-alpha Antibody, Human IgG1 (16H5) (MALS verified)

Catalog # TNA-AM494



## Source

Monoclonal Anti-TNF-alpha Antibody, Human IgG1 (16H5) is a chimeric monoclonal antibody recombinantly expressed from HEK293, which combines the variable region of a mouse monoclonal antibody with Human constant domain.

## Clone

16H5

## Isotype

Human IgG1 | Kappa

## Conjugate

Unconjugated

## Antibody Type

Recombinant Monoclonal

## Reactivity

Human

## Immunogen

Recombinant Human TNF-alpha derived from human HEK293 cells

## Specificity

This product is a specific antibody specifically reacts with TNF-alpha.

## Application

Application	Recommended Usage
ELISA	0.1-10 ng/mL

## Purity

>95% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

## Purification

Protein A purified/ Protein G purified

## Formulation

Lyophilized from 0.22  $\mu$ m 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

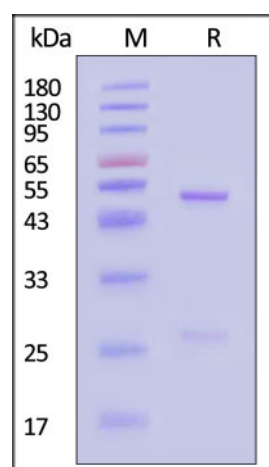
For long term storage, the product should be stored at lyophilized state at  $-20^{\circ}\text{C}$  or lower.

*Please avoid repeated freeze-thaw cycles.*

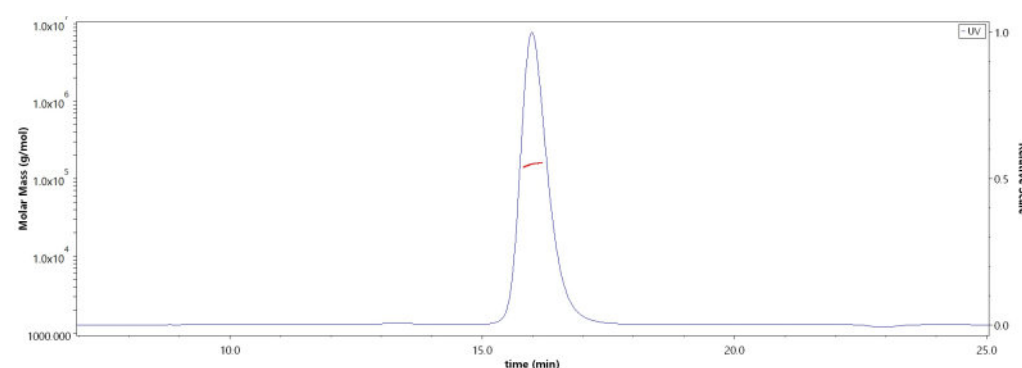
This product is stable after storage at:

- $-20^{\circ}\text{C}$  to  $-70^{\circ}\text{C}$  for 12 months in lyophilized state;
- $-70^{\circ}\text{C}$  for 3 months under sterile conditions after reconstitution.

## SDS-PAGE



## SEC-MALS



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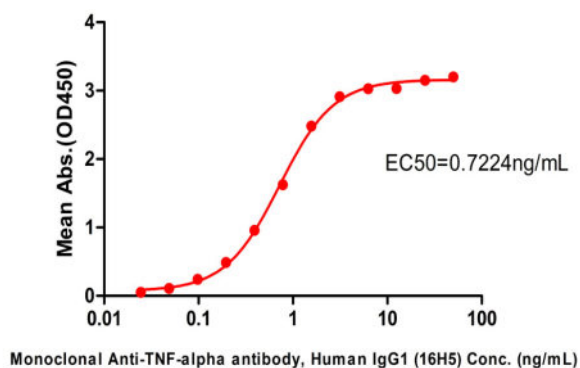
BIOSYSTEMS  
**Acro**

Monoclonal Anti-TNF-alpha Antibody, Human IgG1 (16H5) 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](#)).

The purity of Monoclonal Anti-TNF-alpha Antibody, Human IgG1 (16H5) (Cat. No. TNA-AM494) is more than 90% and the molecular weight of this protein is around 135-160 kDa verified by SEC-MALS. [Report](#)

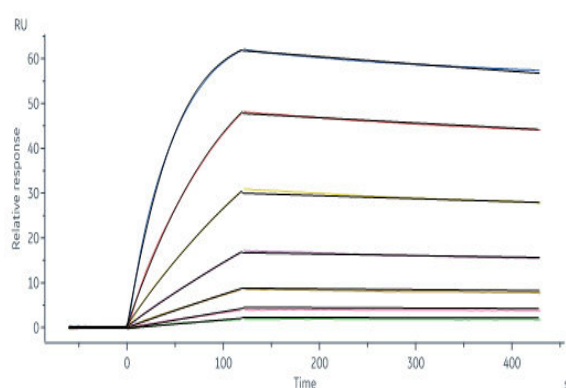
## Bioactivity-ELISA

Monoclonal Anti-TNF-alpha antibody, Human IgG1 (16H5) ELISA  
0.2 ug of Human TNF-alpha Protein, His Tag (active trimer) (MALS verified) per well



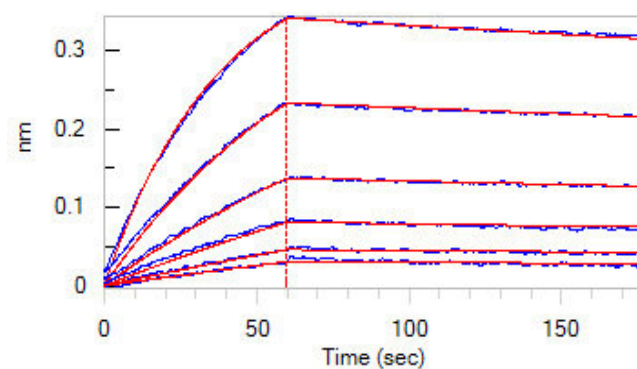
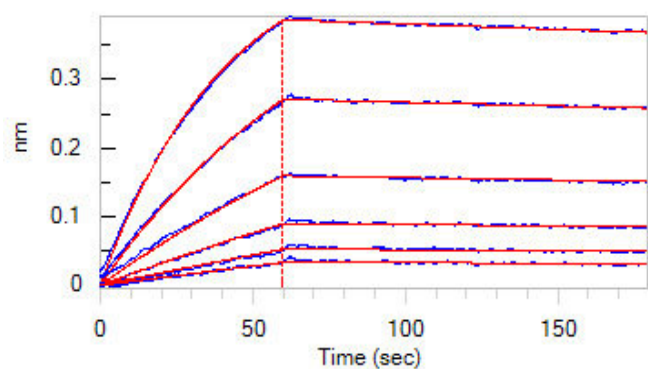
Immobilized Human TNF-alpha Protein, His Tag (active trimer) (MALS verified) (Cat. No. TNA-H5228) at 2µg/mL (100µL/well) can bind Monoclonal Anti-TNF-alpha antibody, Human IgG1 (16H5) (Cat. No. TNA-AM494) with a linear range of 0.04-1.25 ng/mL (QC tested).

## Bioactivity-SPR



Monoclonal Anti-TNF-alpha antibody, Human IgG1 (16H5) (Cat. No. TNA-AM494) captured on CM5 chip via Anti-human IgG Fc antibodies surface can bind Human TNF-alpha, His Tag (Cat. No. TNA-H5228) with an affinity constant of 0.132 nM as determined in a SPR assay (Biacore 8K) (Routly tested).

## Bioactivity-BLI



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9/18/2024

# Monoclonal Anti-TNF-alpha Antibody, Human IgG1 (16H5) (MALS verified)

Catalog # TNA-AM494



Loaded Monoclonal Anti-TNF-alpha antibody, Human IgG1 (16H5) (Cat. No. TNA-AM494) on Protein A Biosensor, can bind Human TNF-alpha, His Tag (active trimer) (MALS verified) (Cat. No. TNA-H5228) with an affinity constant of 1.72 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

Loaded Monoclonal Anti-TNF-alpha antibody, Human IgG1 (16H5) (Cat. No. TNA-AM494) on Protein A Biosensor, can bind Human TNF-alpha, premium grade (MALS verified) (Cat. No. TNA-H4211) with an affinity constant of 2.61 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

## Background

Tumor necrosis factor alpha (TNF $\alpha$ ) 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 $\alpha$  is in the regulation of immune cells. TNF $\alpha$  is able to induce apoptotic cell death, to induce inflammation, and to inhibit tumorigenesis and viral replication. Dysregulation of TNF $\alpha$  production has been implicated in a variety of human diseases, including major depression, Alzheimer's disease and cancer. Recombinant TNF $\alpha$  is used as an immunostimulant under the INN tasonermin. TNF $\alpha$  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.

## Clinical and Translational Updates

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