



**Source**

Biotinylated 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 | Human Kappa

**Conjugate**

Biotin

**Antibody Type**

Recombinant Monoclonal

**Reactivity**

Human

**Immunogen**

Human TNF-alpha Protein is expressed from human 293 cells.

**Specificity**

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

**Application**

Application	Recommended Usage
ELISA	0.2-50 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 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**

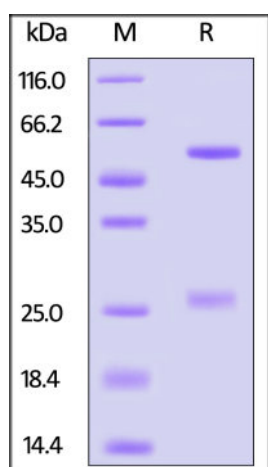
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

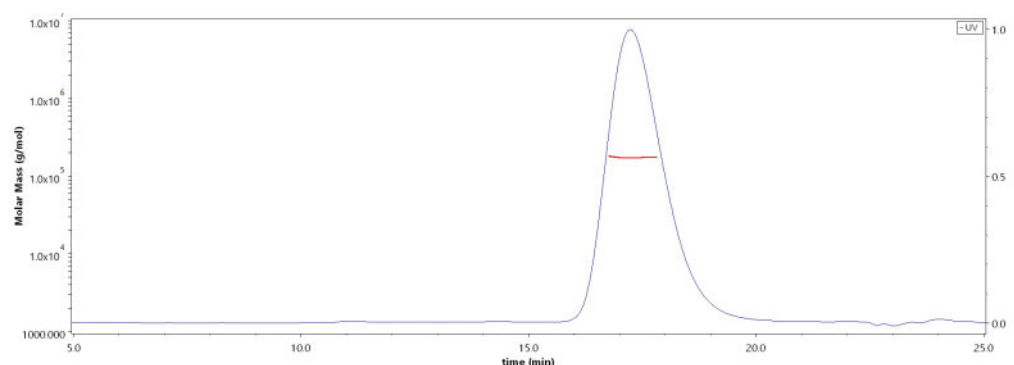
This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

**SDS-PAGE**



**SEC-MALS**



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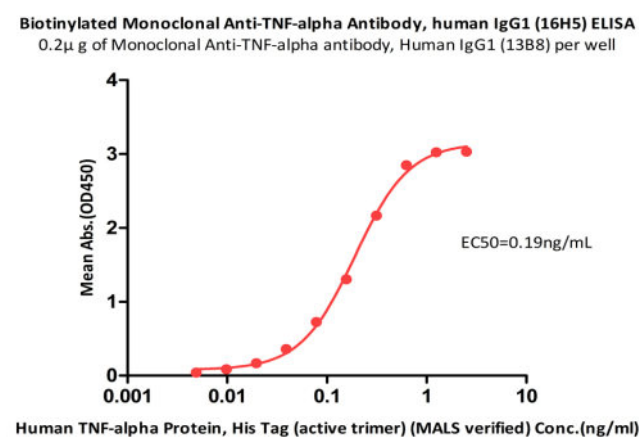
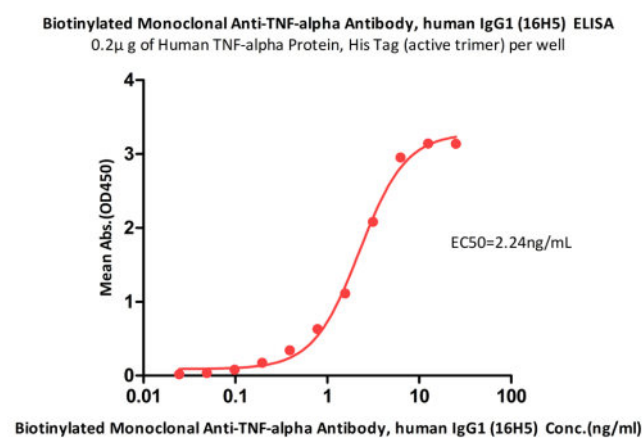


Biotinylated Monoclonal Anti-TNF-alpha Antibody, human IgG1 (16H5) on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

The purity of Biotinylated Monoclonal Anti-TNF-alpha Antibody, human IgG1 (16H5) (Cat. No. TNA-BLM494) is more than 90% and the molecular weight of this protein is around 135-175 kDa verified by SEC-MALS.

[Report](#)

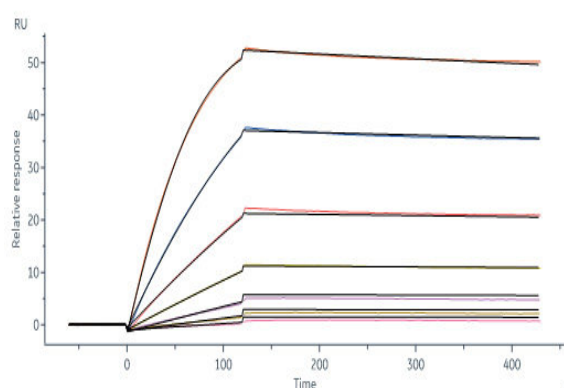
## Bioactivity-ELISA



Immobilized Human TNF-alpha Protein, His Tag (Cat. No. TNA-H5228) at 2 μg/mL (100 μL/well) can bind Biotinylated Monoclonal Anti-TNF-alpha Antibody, human IgG1 (16H5) (Cat. No. TNA-BLM494) with a linear range of 0.20-3.13 ng/mL (QC tested).

Immobilized Monoclonal Anti-TNF-alpha Antibody, Human IgG1 (13B8) (Cat. No. TNA-AM493) at 2 μg/mL, add increasing concentrations of Human TNF-alpha Protein, His Tag (Cat. No. TNA-H5228), and then add Biotinylated Monoclonal Anti-TNF-alpha Antibody, human IgG1 (16H5) (Cat. No. TNA-BLM494) at 0.25 μg/mL. Detection was performed using HRP-conjugated streptavidin with sensitivity of 0.02 ng/mL (Routinely tested).

## Bioactivity-SPR

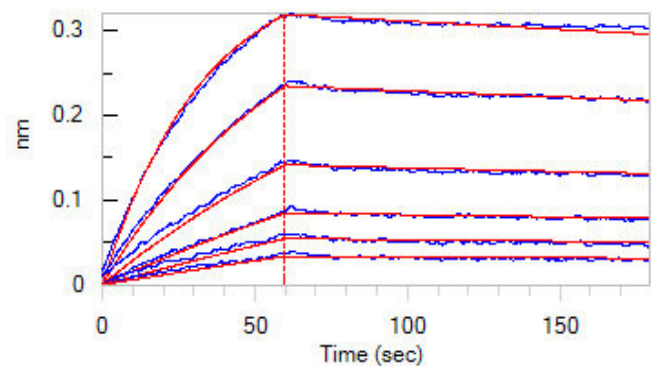


Biotinylated Monoclonal Anti-TNF-alpha Antibody, human IgG1 (16H5) (Cat. No. TNA-BLM494) captured on CM5 chip via Anti-human IgG Fc antibodies surface can bind Human TNF-alpha, His Tag (Cat. No. TNA-H5228) with an affinity constant of 75.9 pM as determined in a SPR assay (Biacore 8K) (Routinely tested).

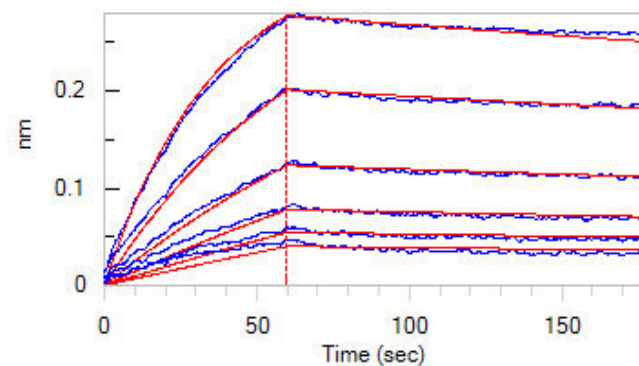
## Bioactivity-BLI

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Loaded Biotinylated Monoclonal Anti-TNF-alpha Antibody, human IgG1 (16H5) (Cat. No. TNA-BLM494) on Protein A Biosensor, can bind Human TNF-alpha, His Tag (Cat. No. TNA-H5228) with an affinity constant of 2.13 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).



Loaded Biotinylated Monoclonal Anti-TNF-alpha Antibody, human IgG1 (16H5) (Cat. No. TNA-BLM494) on Protein A Biosensor, can bind Human TNF-alpha, premium grade (Cat. No. TNA-H4211) with an affinity constant of 3.16 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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