# **Human TNF-alpha / TNFA Protein**

Catalog Number: 10602-HNAE



#### **General Information**

### Gene Name Synonym:

DIF; TNF-alpha; TNFA; TNFSF2

#### **Protein Construction:**

A DNA sequence encoding the human TNF- $\alpha$  soluble form (NP\_000585.2) (Val 77-Leu 233) was expressed, with an initial Met at the N-terminus.

Source: Human

Expression Host: E. coli

# **QC** Testing

Purity: ≥ 95 % as determined by SDS-PAGE, ≥ 95 % as determined by SEC-HPLC, ≥ 95% as determined by SEC-MALS(Routinely

tested).

### **Bio Activity:**

1.Measured in a cytotoxicity assay using L929 mouse fibrosarcoma cells in the presence of the metabolic inhibitor actinomycin D. The ED50 for this effect is typically 3-30 pg/mL.

2.Captured Adalimumab (Cat.No.68056-H001) on Anti-human IgG Fc via CM5 Chip can TNF- $\alpha$  (Cat.No.10602-HNAE) with an affinity constant of 0.2843 nM as determined in a SPR assay (Biacore T200)(Routinely tested).

3.Adalimumab captured on Protein A chip can bind Recombinant Human TNF-alpha Protein (Cat. No. 10602-HNAE) with an affinity constant of 0.12 nM as determined in an SPR assay (Biacore 8K) (Routinely tested).

# **Endotoxin:**

< 5 EU per mg of the protein as determined by the LAL method.

Predicted N terminal: Met

#### **Molecular Mass:**

The recombinant human TNF- $\alpha$  consists of 158 amino acids and has a predicted molecular mass of 17.5 kDa which is also estimated by SDS-PAGE. The molecular weight of this protein is around 50.3 kDa verified by SEC-MALS (Routinely tested).

## Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

#### **Usage Guide**

## Stability & Storage:

Samples are stable for twelve months from date of receipt at -20°C to -80°C.

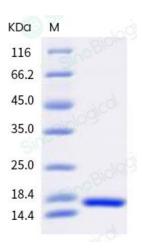
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

#### Avoid repeated freeze-thaw cycles.

#### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

### SDS-PAGE:



# **Protein Description**

Tumor necrosis factor alpha (TNF-alpha), also known as TNF, TNFA or TNFSF2, is the prototypic cytokine of the TNF superfamily, and is a multifunctional molecule involved in the regulation of a wide spectrum of biological processes including cell proliferation, differentiation, apoptosis, lipid metabolism, and coagulation. Two receptors, TNF-R1 (TNF receptor type 1; CD120a; p55/60) and TNF-R2 (TNF receptor type 2; CD120b; p75/80), bind to TNF-alpha. TNF-alpha protein is produced mainly by macrophages, and large amounts of this cytokine are released in response to lipopolysaccharide, other bacterial products, and Interleukin-1 (IL-1). TNF-alpha is involved in fighting against the tumorigenesis, thus, is regarded as a molecular insight in cancer treatment.TNF-alpha Protein & Antibody