Recombinant Human TNF-alpha Protein

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<th>Catalog No</th>
<th>Category</th>
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<td>RP00001</td>
<td>Recombinant Protein</td>
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**Description**

Recombinant Human TNF-alpha Protein is produced by *E. coli* expression system. The target protein is expressed with sequence (Val77-Leu233) of human TNF-alpha (Accession #NP_000585.2) fused with an initial Met at the N-terminus and a 6×His tag at the C-terminus.

**Bio-Activity**

Measured in a cytotoxicity assay using L-929 mouse fibrosarcoma cells in the presence of the metabolic inhibitor actinomycin D. The ED$_{50}$ for this effect is typically 25-100 pg/mL.
**Sequence Information**

- **Species**: Human
- **Gene ID**: 7124
- **Tags**: 6×His tag at the C-terminus
- **Swiss Prot**: P01375
- **Synonyms**: DIF; TNF-alpha; TNFA; TNFSF2; TNLG1F

**Product information**

- **Source**: E. coli
- **Purity**: > 97% by SDS-PAGE.
- **Endotoxin**: < 0.1 EU/μg of the protein by LAL method.
- **Formulation**: Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4.
- **Reconstitution**: Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water.
- **Storage**: Store the lyophilized protein at -20°C to -80 °C for long term. After reconstitution, the protein solution is stable at -20 °C for 3 months, at 2-8 °C for up to 1 week. Avoid repeated freeze/thaw cycles.

**Background**

Tumor necrosis factor alpha (TNF-alpha), also known as TNF, TNFA or TNFSF2, is the prototypic cytokine of the TNF superfamily. This cytokine is mainly secreted by macrophages. It can bind to, and thus functions through its receptors TNFRSF1A/TNFR1 and TNFRSF1B/TNFBR. This cytokine is involved in the regulation of a wide spectrum of biological processes including cell proliferation, differentiation, apoptosis, lipid metabolism, and coagulation. This cytokine has been implicated in a variety of diseases, including autoimmune diseases, insulin resistance, and cancer. Knockout studies in mice also suggested the neuroprotective function of this cytokine.

**Validated Data**

Recombinant Human TNF-alpha Protein was determined by SDS-PAGE with Coomassie Blue, showing a band at 17 kDa.

Recombinant Human TNF-alpha induces cytotoxicity in the L-929 mouse fibroblast cells in the presence of the metabolic inhibitor actinomycin D. The ED<sub>50</sub> for this effect is typically 25-100 pg/mL.

The purity of Human TNF-alpha Protein (Cat.RP00001) was greater than 90% as determined by SEC-HPLC.