



Recombinant Human Tumor necrosis factor (TNF), partial

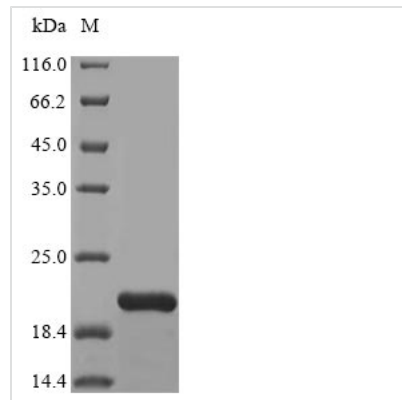
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|--------------------------|---|
| Product Code | CSB-EP023955HU |
| Relevance | Cytokine that binds to TNFRSF1A/TNFR1 and TNFRSF1B/TNFR. It is mainly secreted by macrophages and can induce cell death of certain tumor cell lines. It is potent pyrogen causing fever by direct action or by stimulation of interleukin-1 secretion and is implicated in the induction of cachexia, Under certain conditions it can stimulate cell proliferation and induce cell differentiation. Impairs regulatory T-cells (Treg) function in individuals with rheumatoid arthritis via FOXP3 dephosphorylation. Upregulates the expression of protein phosphatase 1 (PP1), which dephosphorylates the key 'Ser-418' residue of FOXP3, thereby inactivating FOXP3 and rendering Treg cells functionally defective. Key mediator of cell death in the anticancer action of BCG-stimulated neutrophils in combination with DIABLO/SMAC mimetic in the RT4v6 bladder cancer cell line. The TNF intracellular domain (ICD) form induces IL12 production in dendritic cells. |
| Storage | The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C. |
| Uniprot No. | P01375 |
| Storage Buffer | Tris-based buffer, 50% glycerol |
| Product Type | Recombinant Proteins |
| Immunogen Species | Homo sapiens (Human) |
| Purity | Greater than 90% as determined by SDS-PAGE. |
| Lead Time | 3-7 business days |
| Research Area | Immunology |
| Source | E.coli |
| Gene Names | TNF |
| Protein Names | Recommended name: Tumor necrosis factor Alternative name(s): Cachectin TNF-alpha Tumor necrosis factor ligand superfamily member 2 Short name= TNF-a Cleaved into the following 6 chains: 1. Tumor necrosis factor, membrane form Alternative |
| Expression Region | 77-233aa |
| Notes | Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week. |
| Tag Info | N-terminal 6xHis-tagged |
| Mol. Weight | 19.4kDa |



Protein Description

Partial

Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

The preparation of this recombinant Human TNF protein was to use gene recombination DNA technology to obtain a recombinant vector connected with a TNF fragment (77-233aa) that could be translated into the TNF protein and then transferred it into E.coli cells to express the recombinant TNF protein molecule. In order to get the target protein with high purity, N-terminal 6xHis tag was used in the production. The purity is 90% determined by SDS-PAGE.

Tumor Necrosis Factor alpha (TNF α , TNF) belongs to the tumor necrosis factor (TNF) superfamily, which is mainly secreted by macrophages. It can bind to, and thus functions through its receptors TNFRSF1A/TNFR1 and TNFRSF1B/TNFR. This cytokine is involved in the regulation of a wide spectrum of biological processes including cell proliferation, differentiation, apoptosis, lipid metabolism, and coagulation. TNF is a key mediator and regulator of mammalian immune responses in healthy organisms and in diseased conditions. TNF governs development of the immune system, cell survival signaling pathways, proliferation and regulates metabolic processes. Whereas TNF-induced NF- κ B and MAP pro-survival kinase activities constitute its major biochemical functions, TNF can also stimulate cell death in certain pathological situations. TNF-induced signal transduction pathways are tightly regulated through ubiquitination and phosphorylation of molecules partaking in all TNF-dependent membrane-associated and intracellular protein signaling complexes. Deregulated TNF signaling in individuals carrying naturally occurring genetic mutations in proteins that mediate TNF signaling, or in corresponding genetically modified animal models, results in severe pathologies.