

Active Recombinant Human TNFa

Cat. No. TNF-39H Lot. No. (See product label)

SPECIFICATION

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| Product Overview | Recombinant human TNF alpha protein (rhTNFa) Val77-Leu233 was produced in human HEK293 cells. |
| Species | Human |
| Source | HEK293 |
| ProteinLength | 77-233 a.a. |
| Description | This gene encodes a multifunctional proinflammatory cytokine that belongs to the tumor necrosis factor (TNF) superfamily. This cytokine 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. 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. |
| Form | Bulk protein in a 0.22 µm filtered solution of PBS, pH 7.4 and delivered as liquid formulation or lyophilized powder. Normally 5-8% trehalose and mannitol are added as protectants before lyophilization. |
| Bio-activity | The bio-activity was determined by its cytotoxicity assay using L929 Cells with 1µg/ml actinomycin D. ED50<25pg/ml, corresponding to a specific activity of >4X10 ⁷ |

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| | Unit/mg |
| Molecular Mass | rhTNFa, without any tag, has a calculated MW of 17.4 kDa expressed. The predicted N-terminus is Val77. Protein migrates as 18 kDa in reduced SDS-PAGE. The gel filtration analysis indicates that only HEK293 expressed TNF alpha protein is trimeric form, which has a molecular mass of 54 kDa. |
| Endotoxin | Less than 1.0 EU per 1 µg of the rhTNFa by the LAL method. |
| Purity | >98% as determined by SDS-PAGE. All lots are greater than 95% pure. |
| Storage | Store at -20° in lyophilized state after receipt. For long term storage, upon reconstitution rhTNFa should be aliquot and store at -20° or -80°. Avoid repeated freeze-thaw cycles. |
| GENE INFORMATION | |
| Gene Name | TNF tumor necrosis factor [Homo sapiens] |
| Official Symbol | TNF |
| Synonyms | TNF; tumor necrosis factor; tumor necrosis factor (TNF superfamily, member 2); DIF; TNFA; TNFSF2; TNF-alpha; Cachectin; OTTHUMP00000037669; TNF-a; APC1 protein; TNF superfamily, member 2; TNF, macrophage-derived; TNF, monocyte-derived; Tumor necrosis factor ligand superfamily member 2; Tumor necrosis factor precursor; tumor necrosis factor (cachectin); tumor necrosis factor alpha; tumor necrosis factor, alpha (cachectin) |
| Gene ID | 7124 |
| mRNA Refseq | NM_000594 |

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| Protein Refseq | NP_000585 |
| MIM | 191160 |
| UniProt ID | P01375 |
| Chromosome Location | 6p21.3 |
| Pathway | Adipocytokine signaling pathway; AhR pathway; Alzheimer's disease |
| Function | Cytokine activity; Identical protein binding; Tumor necrosis factor receptor binding |

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