# Recombinant Human TNF-alpha/TNFA Protein (His Tag)

**Catalog Number:PKSH033164**

***Note:*** Centrifuge before opening to ensure complete recovery of vial contents.

## Description

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|---|---|
| **Synonyms** | Tumor Necrosis Factor;Cachectin;TNF-Alpha;Tumor Necrosis Factor Ligand Superfamily Member 2;TNF-a;TNF;TNFA;TNFSF2 |
| **Species** | Human |
| **Expression Host** | E.coli |
| **Sequence** | Val 77-Leu 233 |
| **Accession** | P01375 |
| **Calculated Molecular Weight** | 18.3 kDa |
| **Observed molecular weight** | 17 kDa |
| **Tag** | C-His |
| **Bioactivity** | Measure by its ability to induce cytotoxicity in L929 cells in the presence of actinomycin D. The $ED_{50}$ for this effect is $^{7}$ IU/mg. |

## Properties

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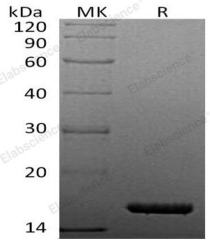
|---|---|
| **Purity** | > 97 % as determined by reducing SDS-PAGE. |
| **Endotoxin** | < 0.1 EU per μg of the protein as determined by the LAL method. |
| **Storage** | Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80℃. Reconstituted protein solution can be stored at 4-8℃ for 2-7 days. Aliquots of reconstituted samples are stable at < -20℃ for 3 months. |
| **Shipping** | This product is provided as lyophilized powder which is shipped with ice packs. |
| **Formulation** | Lyophilized from sterile PBS,pH 8.0.<br>Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization.<br>Please refer to the specific buffer information in the printed manual. |
| **Reconstitution** | Please refer to the printed manual for detailed information. |

## Data




> 97 % as determined by reducing SDS-PAGE.

## Background

Tumor Necrosis Factor-α (TNF-α) is secreted by macrophages; monocytes; neutrophils; T-cells; and NK-cells following stimulation by bacterial LPS. Cells expressing CD4 secrete TNF-α while cells that express CD8 secrete little or no TNF-α. Synthesis of TNF-α can be induced by many different stimuli including interferons; IL2; and GM-CSF. The clinical use of the potent anti-tumor activity of TNF-α has been limited by the proinflammatory side effects such as fever; dose-limiting hypotension; hepatotoxicity; intravascular thrombosis; and hemorrhage. Designing clinically applicable TNF-α

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mutants with low systemic toxicity has been of intense pharmacological interest. Human TNF-α that binds to murine TNF-R55 but not murine TNF-R7; exhibits retained anti-tumor activity and reduced systemic toxicity in mice compared with murine TNF-α; which binds to both murine TNF receptors. Based on these results; many TNF-α mutants that selectively bind to TNF-R55 have been designed. These mutants displayed cytotoxic activities on tumor cell lines in vitro and have exhibited lower systemic toxicity in vivo. Recombinant Human TNF-α High Active Mutant differs from the wild-type by amino acid subsitution of amino acids 1-7 with Arg8; Lys9; Arg10 and Phe157. This mutant form has been shown to have increased activity with less inflammatory side effects in vivo.



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