

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

Catalog Number: PKSH033164

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

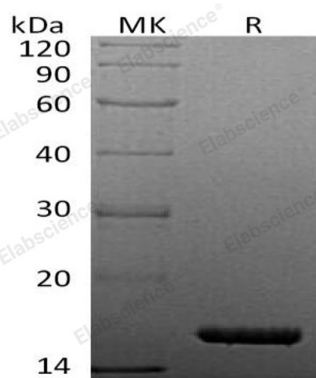
Description

Species	Human
Source	E.coli-derived Human TNF-alpha/TNFA protein Val 77-Leu 233, with an C-terminal His
Calculated MW	18.3 kDa
Observed MW	17 kDa
Accession	P01375
Bio-activity	Measure by its ability to induce cytotoxicity in L929 cells in the presence of actinomycin D. The ED ₅₀ for this effect is < 0.1 ng/mL. The specific activity of recombinant human TNF alpha is approximately $\geq 1 \times 10^7$ IU/mg.

Properties

Purity	> 97 % as determined by reducing SDS-PAGE.
Endotoxin	< 0.1 EU per μ g 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°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C 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. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
Reconstitution	Please refer to the printed manual for detailed information.

Data



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Background

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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 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 substitution 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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