

Recombinant Human TNF- α /TNFA Protein High Active Mutant Protein



Catalog Number:PKSH033167

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

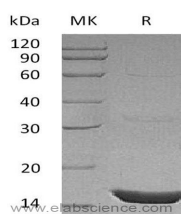
Description

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
Accession	P01375
Calculated Molecular Weight	16.9 kDa
Observed molecular weight	15-17 kDa
Bioactivity	Measured in a cytotoxicity assay using L-929 mouse fibroblast cells in the presence of the metabolic inhibitor actinomycin D. The ED50 for this effect is 1.48 μ g/ml.

Properties

Purity	> 95 % as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 EU per μ g as determined by the LAL method.
Storage	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 a 0.2 μ m filtered solution of 20mM PB, 150mM NaCl, pH 7.4.
Reconstitution	Please refer to the printed manual for detailed information.

Data



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 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

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increased activity with less inflammatory side effects in vivo.

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