Recombinant Human TNF-alpha/TNFA Protein (aa 57-233, His Tag)

Catalog Number: PKSH033165

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

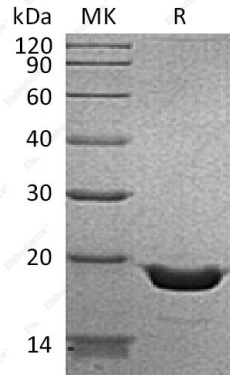
Description

Species	Human
Source	E.coli-derived Human TNF-alpha/TNFA protein Gly57-Leu233, with an N-terminal His
Calculated MW	21.8 kDa
Observed MW	18 kDa
Accession	P01375
Bio-activity	Measured in a cytotoxicity assay using L- 929 mouse fibroblast cells in the presence of the metabolic inhibitor actinomycin D. The ED_{50} for this effect is 30-150 pg/ml.

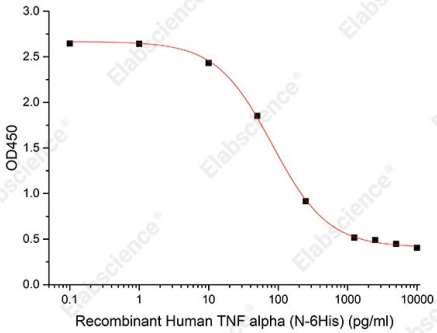
Properties

Purity	> 95 % as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 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°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 μm filtered solution of 20mM Histidine, 8 %Trehalose, 0.05%Tween80, pH5.0.
Reconstitution	Please refer to the printed manual for detailed information.

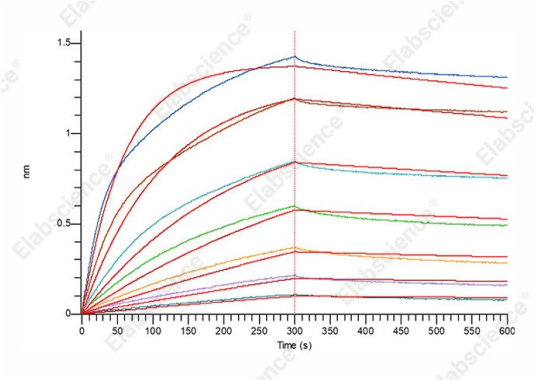
Data



> 95 % as determined by reducing SDS-PAGE.



Measured in a cytotoxicity assay using L- 929 mouse fibroblast cells in the presence of the metabolic inhibitor actinomycin D. The ED_{50} for this effect is 30-150 pg/ml.



Loaded Human TNF alpha-His(PKSH033165) on HIS1K Biosensor, can bind Human TNF RII-mFc(PKSH033484) with an affinity constant of 1.83 nM as determined in BLI assay.

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 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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