
Product Data Sheet

Product Name: TNF α Mutant Human
 Cat. No.: GP20977
 Batch No.: 1

Product Data

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped at Room temp.
Synonyms	TNF- α ; Tumor necrosis factor ligand superfamily member 2; TNF- α ; Cachectin; DIF; TNFA; TNFSF2.		
Amino Acid Sequence	MRKRKPVAHV VANPQAEGQL QWLNRRANAL LANGVELRDNQLVVPSEGLY LIYSQVLFKG QGCPSTHVLL THTISRIAVS YQTKVNLLSA IKSPCQRETP EGAEAKPWYE PIYLGGVFQL EKGDRLSAEI NRPDYLDFAE SGQVYFGIIAF.		
Solubility	It is recommended to reconstitute the lyophilized Tumor Necrosis Factor- α Variant in sterile 18M Ω -cm H ₂ O not less than 100 μ g/ml, which can then be further diluted to other aqueous solutions.		
Formulation	The protein was lyophilized after extensive dialysis against 0.5x PBS pH - 7.		

Introduction

The clinical use of the potent anti-tumor activity of TNF- α has been limited by the proinflammatory side effects including fever, dose-limiting hypotension, hepatotoxicity, intravascular thrombosis, and hemorrhage. Designing clinically applicable TNF- α mutants with low systemic toxicity has been an intense pharmacological interest. Human TNF- α , which binds to the murine TNF-R55 but not to the mouse TNF-R75, 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 exhibited lower systemic toxicity in vivo. Recombinant Human TNF- α Variant/Mutant compared with the wild-type, has an amino acid sequence deletion from a.a. 1-7, and the following a.a. substitutes Arg8, Lys9, Arg10 and Phe157 which is proven to have more activity and with less inflammatory side effect in vivo.

Caution: Product has not been fully validated for medical applications. For research use only.

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Biological Activity

The ED50 as determined by the cytolysis of murine L929 cells in the presence of Actinomycin D is < 0.05ng/ml, corresponding to a Specific Activity of 20,000,000 units/mg.

Stability

Lyophilized Tumor Necrosis Factor- α Variant although stable at room temperature for 3 weeks, should be stored desiccated below -18°C . Upon reconstitution TNF- α Variant should be stored at 4°C between 2-7 days and for future use below -18°C . For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Background

Tumor Necrosis Factor- α Variant Human Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 151 amino acids and having a molecular mass of 16598 Dalton. The TNF- α Variant is purified by standard chromatographic techniques.

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