

Product: Tumor Necrosis Factor-alpha mutant, Human, Recombinant
Catalog #: 11-TNF-AmH
Amount: 20 µg

DESCRIPTION: 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*. Recombinant Human TNF- α Variant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 151 amino acids and having a molecular mass of 16598 Dalton

Amino acid Sequence:
M**RRK**RKPVAVH V ANPQAEGQL QWLNRRANAL LANGVELRDN QLVVPSEGLY
LIYSQVLFKG QGCPSTHVLL THTISRIVS YQTKVNLLSA IKSPCQRETP
EGAEAKPWYE PIYLGGVFQL EKGDRLSAEI NRPDYLDFAE SGQVYFGIIA**F**

SOURCE: *E.Coli* Expression System

PURITY: Greater than 95.0% as determined by:
(a) Analysis by RP-HPLC.
(b) Anion-exchange FPLC.
(c) Analysis by reducing and non-reducing SDS-PAGE Silver-Stained gel.

ENDOTOXIN: < 0.1 ng/µg (IEU/µg) of rHuTNF- α

DIMERS & AGREGATES: < 1% as determined by silver-stained SDS-PAGE gel analysis

FORM: Purified

PROTEIN CONTENT: Protein quantitation was carried out by two independent methods:
1. UV spectroscopy at 280 nm
2. Analysis by RP-HPLC, using a calibrated solution of human TNF- α as a Reference Standard.

STORAGE: -20°C (aliquot), avoid repeated freeze and thaw cycles.

BIOLOGICAL ACTIVITY: rHuTNF- α is Variant fully biologically active when compared to the wild type
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 1×10^8 IU/mg

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