83103 Avenue 48, Ste.1B #204
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California Bioscience

Product Datasheet

Product Name	Tumor Necrosis Factor-Alpha Mutant Human Recombinant
Cata No	CB500286
Source	*Escherichia Coli.*
Synonyms	TNF-alpha, Tumor necrosis factor ligand superfamily member 2, TNF-a, Cachectin, DIF, TNFA, TNFSF2.

Description

The clinical use of the potent anti-tumor activity of TNF-a has been limited by the proinflammatory side effects including fever, dose-limiting hypotension, hepatotoxicity, intravascular thrombosis, and hemorrhage. Designing clinically applicable TNF-a 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-a, 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-a 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 tohave more activity and with less inflammatory side effect *in vivo*.
Tumor Necrosis Factor-a 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-alpha Variant is purified by standard chromatographic techniques.

Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder

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 1 x 10^8 IU/mg.

Purity

Greater than 95.0% as determined by:
(a) Analysis by RP-HPLC.
(b) Analysis by SDS-PAGE.

Formulation

The protein was lyophilized after extensive dialysis against 0.5x PBS pH -7.

Stability

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

Sequence

M**RKR**KPVAHV VANPQAEGQL QWLNRRANAL

*** For Non-Clinical Research Use Only ***

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LANGVELRDN EGAEAKPWYE PIYLGGVFQL EKGDRLSAEI
QLVVPSEGLY LIYSQVLFKG QGCPSTHVLL NRPDYLDFAE SGQVYFGIIA F
THTISRIAVS YQTKVNLLSA IKSPCQRETP