

Overview

Synonyms	Tumor Necrosis Factor-alpha (TNF-alpha), Cachectin.
Description	Tumor Necrosis Factor-Alpha (TNF-alpha) plays a major role in growth regulation, differentiation, inflammation, viral replication, tumorigenesis, and autoimmune diseases. Besides inducing hemorrhagic necrosis of tumors, TNF has been found to be involved in tumorigenesis, tumor metastasis, viral replication, septic shock, fever, inflammation, and autoimmune diseases including Crohn's disease, and rheumatoid arthritis as well as graft-versus-host disease. TNF alpha-1a is a potent lymphoid factor that exerts cytotoxic effects on a wide range of tumor cells and certain other target cells. Recombinant human Tumor Necrosis Factor-Alpha (rhTNF-alpha) produced in <i>E. coli</i> is a non-glycosylated polypeptide chain of 164 amino acids. A fully biologically active molecule, rhTNF-alpha has a molecular mass of 18.3kDa analyzed by reducing SDS-PAGE and is obtained by proprietary refolding and chromatographic techniques.
Species	Human
Source	<i>E. coli</i>
Biological Activity	ED ₅₀ <0.13ng/ml, measured in a cytotoxicity assay using L-929 mouse fibrosarcoma cells in the presence of the metabolic inhibitor actinomycin D, corresponding to a specific activity of >7.69 x 10 ⁶ units/mg.
Sequence	MHHHHHVRS SSRTPSDKPV AHVVANPQAE GQLQWLNRRR NALLANGVEL RDNQLVVPSE GLYLIYSQVL FKGQGCPTH VLLTHTISR I AVSYQTKVNL LSAIKSPCQR ETPEGAEAKP WYEP IYLGGV FQLEKGDRLS AEINRPDYLD FAESGQVYFG IAL

Properties

Measured Molecular Weight	18.3kDa, observed by reducing SDS-PAGE.
Purity	> 95% by SDS-PAGE analysis.
Formulation	Lyophilized after extensive dialysis against PBS.
Reconstitution	Reconstituted in ddH ₂ O at 100 µg/ml.
Endotoxin Level	<1.0 EU/µg, determined by LAL method.
Storage	Lyophilized recombinant human Tumor Necrosis Factor-Alpha (rhTNF-alpha) remains stable up to 12 months at lower than -70°C from date of receipt. Upon reconstitution, rhTNF-alpha should be stable up to 4 weeks at 4°C or up to 6 months at -20°C.

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