

Recombinant Human TNF protein

Cat. No. TNF-38H Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant Human TNF protein (variant) was expressed in Escherichia coli. Compared with wild type, this variant has an amino acid sequence (a.a.) 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.
Species	Human
Source	E.coli
ProteinLength	151
Description	The clinical use of the potent antitumor 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 murine TNF-R75, exhibits retained antitumor 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.
Form	Lyophilized from a 0.2 μ m filtered concentrated solution in PBS, pH 7.0.

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Bio-activity	Fully biologically active when compared to standard. The ED50 as determined by a cytotoxicity assay using murine L929 cells is less than 0.01 ng/ml, corresponding to a specific activity of $> 1.0 \times 10^7$ IU/mg in the presence of actinomycin D.
Molecular Mass	Approximately 16.9 kDa, a single non-glycosylated polypeptide chain containing 151 amino acids. Compared with the wild-type, rHuTNF- α Variant has an amino acid sequence (a.a.) 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.
AA Sequence	MRKRKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQ VLFGKGQGPCSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIY LGGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAF
Endotoxin	Less than 1 EU/ μ g of rHu TNF- α /TNFSF2, Variant as determined by LAL method.
Purity	>98% by SDS-PAGE and HPLC analysis.
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 12 months from date of receipt, -20 to -70 centigrade as supplied. 1 month, 2 to 8 centigrade under sterile conditions after reconstitution. 3 months, -20 to -70 centigrade under sterile conditions after reconstitution.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 centigrade. Further dilutions should be made in appropriate buffered solutions.

GENE INFORMATION

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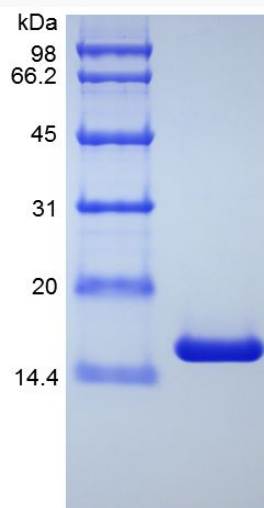
Gene Name	TNF
Official Symbol	TNF
Synonyms	TNF; tumor necrosis factor; TNFA, tumor necrosis factor (TNF superfamily, member 2); DIF; TNF superfamily; member 2; TNF alpha; TNFSF2; TNF-a; cachectin; APC1 protein; TNF, monocyte-derived; TNF, macrophage-derived; TNF superfamily, member 2; tumor necrosis factor alpha; tumor necrosis factor-alpha; tumor necrosis factor ligand superfamily member 2; TNFA; TNF-alpha;
Gene ID	7124
mRNA Refseq	NM_000594
Protein Refseq	NP_000585
MIM	191160
UniProt ID	P01375

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**SDS-PAGE of TNF-
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