

Recombinant Human Tumor Necrosis Factor- α /TNFSF2, Variant

#R00078

Size: 10 μ g/100 μ g/500 μ g

Stability & Storage

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.



Warning: This product is intended for scientific research only. It is not to be used for medical or diagnostic procedures in humans or animals, nor as a food, cosmetic, or household product.

Background

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.

AA Sequence

MRKRKPAHVVANPQAEGQLQWLNRRANALLANGV
ELRDNQLVVPSEGLYLIYSQVLFKGQGCPSTHVLLTH
TISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYE
PIYLGGVFQLEKGDRLSAEINRPDYLDFAESGQVYFG
IIAF

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 $\leq$ -20 °C. Further dilutions should be made in appropriate buffered solutions.

Product Specification

Synonyms	Tumor Necrosis Factor, TNFSF2, Cachectin, Differentiation-inducing factor (DIF), Necrosin, Cytotoxin
Accession	P01375
GeneID	7124
Species	Human
Source	Escherichia coli.
Molecular Weight	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.
Purity	> 98 % by SDS-PAGE and HPLC analyses.
Biological Activity	Fully biologically active when compared to standard. The ED ₅₀ 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 × 10 ⁷ IU/mg in the presence of actinomycin D.
Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Formulation	Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.0.
Endotoxin	Less than 1 EU/µg of rHu TNF-α/TNFSF2, Variant as

determined by LAL method.
