



## Technical Data Sheet

### Recombinant Human Tumor Necrosis Factor-alpha (rHu TNF- $\alpha$ )

#### *Human Tumor Necrosis Factor-alpha*

Tumor necrosis factor alpha (TNF- $\alpha$ ), also called cachectin, is produced by neutrophils, activated lymphocytes, macrophages, NK cells, LAK cells, astrocytes endothelial cells, smooth muscle cells and some transformed cells. TNF- $\alpha$  occurs as a secreted, soluble form and as a membrane-anchored form, both of which are biologically active. The naturally-occurring form of TNF- $\alpha$  is glycosylated, but non-glycosylated recombinant TNF- $\alpha$  has comparable biological activity. The biologically active native form of TNF- $\alpha$  is reportedly a trimer. Human and murine TNF- $\alpha$  show approximately 79% homology at the amino acid level and crossreactivity between the two species. Two types of receptors for TNF- $\alpha$  have been described and virtually all cell types studied show the presence of one or both of these receptor types.

Catalog Number:	RC214-12
Source:	<i>Escherichia coli</i> .
Molecular Weight:	Approximately 17.5 kDa. The recombinant protein preparation is a mixture of a 158 amino acid residue form containing an N-terminal methionine and a 157 amino acid residue form with the sequence of mature human TNF- $\alpha$ .
Quantity:	10ug/50ug/1000 $\mu$ g
Purity:	>95% by SDS-PAGE and HPLC analyses.
Biological Activity:	Fully biologically active when compared to standard. The Specific Activity is $\geq 2.0 \times 10^7$ IU/mg as determined by the cytolysis of murine L929 cells in the presence of Actinomycin D.
Physical Appearance:	Sterile Filtered White lyophilized (freeze-dried) powder.
Formulation:	Lyophilized from a 0.2 $\mu$ m filtered concentrated (1mg/ml) solution in PBS, pH 7.0.
AA Sequence:	VRSSSRTPSD KPAHVVANP QAEGQLQWLN RRANALLANG VELRDNQLVVPSEGLYLIYS QVLFKGGQCP STHVLLTHTI SRIAVSYQTK VNLLSAIKSP CQRETPEGAE AKPWYEPIYL GGVFQLEKGD RLSAEINRPD YLDFAESGQV YFGIIL
Endotoxin:	Less than 1EU/ $\mu$ g of rHuTNF- $\alpha$ as determined by LAL method.
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 $\leq -20^\circ\text{C}$ . Further dilutions should be made in appropriate buffered solutions.



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Storage:

This lyophilized preparation is stable at 2-8°C, but should be kept at -20°C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8°C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -70°C. Avoid repeated freeze/thaw cycles.

Usage:

This material is offered by Bio Basic Inc for research, laboratory or further evaluation purposes. NOT FOR HUMAN USE.