



## Technical Data Sheet

### Recombinant Rat Tumor Necrosis Factor-alpha (rRtTNF- $\alpha$ )

#### *Rat 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. 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:	RC254-12
Source:	<i>Escherichia coli</i> .
Molecular Weight:	Approximately 17.2 kDa, a single non-glycosylated polypeptide chain containing 156 amino acids.
Quantity:	5 $\mu$ g/20 $\mu$ g/1000 $\mu$ g
AA Sequence:	LRSSSQNSSD KPAHVAVNH QAEEQLEWLS QRANALLANG MDLKDNQLVV PADGLYLIYS QVLFKQGQCP DYVLLTHTVS RFAISYQEKV SLLSAIKSPC PKDTPEGAEL KPWYEPMYLG GVFOLEKGD LSAEVNLPKY LDITESGQVY FGVIAL
Purity:	>95% by SDS-PAGE and HPLC analyses.
Biological Activity:	Fully biologically active when compared to standard. The ED <sub>50</sub> determined by a cytotoxicity assay using murine L929 cells is less than 0.02 ng/ml, corresponding to a specific activity of $> 5.0 \times 10^7$ IU/mg in the presence of the metabolic inhibitor actinomycin D.
Physical Appearance:	Sterile Filtered White lyophilized (freeze-dried) powder.
Formulation:	Lyophilized from a 0.2 $\mu$ m filtered concentrated solution in 20mM PB, pH7.2, 150mM NaCl.
Endotoxin:	Less than 1EU/ $\mu$ g of rRtTNF- $\alpha$ 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.
Storage:	This lyophilized preparation is stable at 2-8 $^\circ\text{C}$ , but should be kept at -20 $^\circ\text{C}$ for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8 $^\circ\text{C}$ . For maximal stability, apportion the



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Usage:

reconstituted preparation into working aliquots and store at  $-20^{\circ}\text{C}$  to  $-70^{\circ}\text{C}$ .  
Avoid repeated freeze/thaw cycles.

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