

# Recombinant Murine Tumor Necrosis Factor-alpha (rMuTNF- $\alpha$ )

## PrimeGene Technical Data Sheet

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<b>Catalog Number:</b>	123-01
<b>Source:</b>	<i>Escherichia coli</i> .
<b>Molecular Weight:</b>	Approximately 17.4 kDa. The recombinant murine TNF- $\alpha$ is a soluble 157 amino acid protein which corresponds to C-terminal extracellular domain of the full length transmembrane protein.
<b>Quantity:</b>	5 $\mu$ g/20 $\mu$ g/1000 $\mu$ g
<b>AA Sequence:</b>	MLRSSSQNSS DKPVAHVVAN HQVEEQLEWL SQRANALLAN GMDLKDNLV VPADGLYLVY SQVLFKGGC PDYVLLTHTV SRFAISYQEK VNLLSAVKSP CPKDTPEGAE LKPWYEPIYL GGVFQLEKGD QLSAEVNLPK YLDFAESGQV YFGVIAL
<b>Purity:</b>	> 98 % by SDS-PAGE and HPLC analyses.
<b>Biological Activity:</b>	Fully biologically active when compared to standard. The ED <sub>50</sub> as determined by a cytotoxicity assay using murine L929 cells is less than 0.1 ng/ml, corresponding to a specific activity of > 1.0 $\times$ 10 <sup>7</sup> IU/mg in the presence of actinomycin D.
<b>Physical Appearance:</b>	Sterile Filtered White lyophilized (freeze-dried) powder.
<b>Formulation:</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS, pH 7.2.
<b>Endotoxin:</b>	Less than 1 EU/ $\mu$ g of rMuTNF- $\alpha$ as determined by LAL method.
<b>Reconstitution:</b>	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.
<b>Shipping:</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage:</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"><li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li><li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li><li>● 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li></ul>
<b>Usage:</b>	This material is offered by Shanghai PrimeGene Bio-Tech for research, laboratory or further evaluation purposes. <b>NOT FOR HUMAN USE.</b>

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### ***Mouse Tumor Necrosis Factor-alpha***

Tumor necrosis factor alpha (TNF- $\alpha$ ), also called cachectin, is the best-know member of the TNF-family, which can cause cell death. This protein 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 cross-reactivity 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.