

# Recombinant Rhesus Macaque Tumor Necrosis Factor-alpha (rRhTNF- $\alpha$ )

## ChemWhat Technical Data Sheet (TDS)

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<b>Catalog Number:</b>	113-01
<b>Source:</b>	<i>Escherichia coli</i> .
<b>Molecular Weight:</b>	Approximately 17.3 kDa, a single non-glycosylated polypeptide chain containing 157 amino acids.
<b>Quantity:</b>	5 $\mu$ g/25 $\mu$ g/1000 $\mu$ g
<b>AA Sequence:</b>	VRSSSRTPSD KPVAHVVANP QAEGQLQWLN RRANALLANG VELTDNQLVV PSEGLYLIYS QVLFKQGQCP SNHVLLTHTI SRIAVSYQTK VNLLSAIKSP CQRETPEGAE AKPWYEPIYL GGVFQLEKGD RLSAEINLPD YLDFAESGQV YFGIHAL
<b>Purity:</b>	> 95 % 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 0.05 ng/ml, corresponding to a specific activity of > 2.0 $\times$ 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 concentrated solution in PBS, pH 7.4, 5 % trehalose.
<b>Endotoxin:</b>	Less than 1 EU/ $\mu$ g of rRhTNF- $\alpha$ 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 $^{\circ}$ 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 <math>^{\circ}</math>C as supplied.</li><li>● 1 month, 2 to 8 <math>^{\circ}</math>C under sterile conditions after reconstitution.</li><li>● 3 months, -20 to -70 <math>^{\circ}</math>C under sterile conditions after reconstitution.</li></ul>
<b>Usage:</b>	ChemWhat Limited in UK offers this branded product for research, development or further evaluation purposes. <b>NOT FOR HUMAN USE.</b>

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### *Rhesus Macaque Tumor Necrosis Factor-alpha*

Tumor necrosis factor alpha (TNF- $\alpha$ ), also called cachectin, is the best-known 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. Rhesus macaque and human TNF- $\alpha$  show approximately 98 % homology at the amino acid level. 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.