

## PRODUCT DATA SHEET



Bioworld Technology, Inc.

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

Catalog Number: PR1125

Source: Escherichia coli.

Quantity: 10 $\mu$ g/50 $\mu$ g/1.0mg

#### Description

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 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.

#### 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- $\alpha$ .

#### 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 0.2mm filtered concentrated solution in PBS, pH 7.0.

#### AA Sequence:

VRSSSRTPSDKPVAVHVVANPQAEGLQ  
WLNRRANALLANGVELRDNQLVVPSE  
GLYLIYSQVLFKGGQCPSTHVLTLTHTIS  
RIAVSYQTKVNLLSAIKSPCQRETPEGA  
EAKPWYEPYILGGVFQLEKGDRLSAEI  
NRPDYLDFAESGQVYFGIIAL

#### Endotoxin:

Less than 1EU/mg 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  $< -20^{\circ}\text{C}$ . 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 reconstituted preparation into working aliquots and store at  $-20^{\circ}\text{C}$  to  $-70^{\circ}\text{C}$ . Avoid repeated freeze/thaw cycles.

#### Usage:

This material is offered by USA Bioworld biotech for research, laboratory or further evaluation purposes. NOT FOR HUMAN USE. Made in China

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