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## Product Data Sheet

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Product Name: TNF  $\alpha$  Canine  
 Cat. No.: GP20974  
 Batch No.: 1

### Product Data

|                     |  |                    |                       |
|---------------------|--|--------------------|-----------------------|
| Purity              | >98%   | Source             | Escherichia Coli.     |
| Physical Appearance | solid  | Shipping Condition | Shipped at Room temp. |
| Synonyms            | Tumor necrosis factor; Cachectin; TNF- $\alpha$ ; Tumor necrosis factor ligand superfamily member 2; TNF- $\alpha$ ; TNF; TNFA; TNFSF2.  |                    |                       |
| Amino Acid Sequence | VKSSSRTPSD KPVAHVVANP EAEGQLQWLS RRANALLANG VELTDNQLIV<br>PSDGLYLIYS QVLFKGQGCP STHVLLTHTI SRFAVSYQTK VNLLSAIKSP<br>CQRETPEGTE AKPWYEPIYL GGVFQLEKGD RLSAEINLPN YLDFAESGQV<br>YFGIIAL.                           |                    |                       |
| Solubility          | It is recommended to reconstitute the lyophilized Tumor Necrosis Factor- $\alpha$ in sterile 18M-cm H <sub>2</sub> O not less than 100 $\mu$ g/ml, which can then be further diluted to other aqueous solutions. |                    |                       |
| Formulation         | Filtered (0.2 $\mu$ m) and lyophilized from a concentrated (1mg/ml) solution in 16 $\times$ PBS, pH7.4.  |                    |                       |

### Introduction

Tumor necrosis factor is a cytokine involved in systemic inflammation and is a member of a group of cytokines that all stimulate the acute phase reaction. TNF is mainly secreted by macrophages. TNF causes apoptotic cell death, cellular proliferation, differentiation, inflammation, tumorigenesis and viral replication, TNF is also involved in lipid metabolism, and coagulation. TNF's primary role is in the regulation of immune cells. Dysregulation and, in particular, overproduction of TNF have been implicated in a variety of human diseases- autoimmune diseases, insulin resistance, and cancer.

### Biological Activity

The Specific Activity is >3.36 $\times$ 10<sup>5</sup> IU/mg as determined by the cytolysis of murine L929 cells in the presence of Actinomycin D.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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### Stability

Lyophilized Tumor Necrosis Factor- $\alpha$  although stable at room temperature for 3 weeks, should be stored desiccated below  $-18^{\circ}\text{C}$ . Upon reconstitution TNF- $\alpha$  should be stored at  $4^{\circ}\text{C}$  between 2-7 days and for future use below  $-18^{\circ}\text{C}$ . For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

### Background

TNF- $\alpha$  Canine Recombinant produced in E.Coli is a single, non-glycosylated polypeptide chain containing 157 amino acids and having a molecular mass of 17.3 kDa. The TNF- $\alpha$  is purified by proprietary chromatographic techniques.

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