



RayBiotech, Inc.

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Certificate of Analysis and Data Sheet

Recombinant Porcine Tumor Necrosis Factor-alpha

Catalog No.
228-11519

Source:
Escherichia Coli

Synonyms:

TNF-alpha, Tumor necrosis factor ligand superfamily member 2, TNF-a, Cachectin, DIF, TNFA, TNFSF2.

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.

Description:

Tumor Necrosis Factor-a Porcine Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 157 amino acids and having a molecular mass of 17,274 Dalton. The TNF-alpha is purified by standard chromatographic techniques.

Source:

Escherichia Coli.

Physical Appearance:

Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation:

The protein was lyophilized with no additives.

Solubility:

It is recommended to reconstitute the lyophilized Tumor Necrosis Factor-alpha in sterile 18MΩ-cm H₂O not less than 100μg/ml, which can then be further diluted to other aqueous solutions.

**The products are furnished for LABORATORY RESEARCH USE ONLY.
Not for diagnostic or therapeutic use.**



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Stability:

Lyophilized Tumor Necrosis Factor- α although stable at room temperature for 3 weeks, should be stored desiccated below -18°C . Upon reconstitution TNF- α should be stored at 4°C between 2-7 days and for future use below -18°C .

For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Please prevent freeze-thaw cycles.

Purity:

Greater than 95.0% as determined by:

- (a) Analysis by RP-HPLC.
- (b) Analysis by SDS-PAGE.

Amino acid sequence:

The sequence of the first five N-terminal amino acids was determined and was found to be Met-Leu-Arg-Ser-Ser.

Biological Activity:

The ED₅₀ as determined by the cytotoxicity of porcine PK15 cells was found to be 0.001-0.015ng/ml.

Protein content:

Protein quantitation was carried out by two independent methods:

1. UV spectroscopy at 280 nm using the absorbency value of 1.26 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics).
2. Analysis by RP-HPLC, using a calibrated solution of TNF- α as a Reference Standard.

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