



## RayBiotech, Inc.

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# Certificate of Analysis and Data Sheet

## Recombinant Human Tumor Necrosis Factor-beta

**Catalog No.**  
228-11524

**Source**  
*Escherichia Coli*

### **Synonyms:**

Lymphotoxin-alpha, LT-alpha, TNF-beta, Tumor necrosis factor ligand superfamily member 1, LTA, LT, TNFB, TNFSF1.

### **Introduction:**

Lymphotoxin alpha, a member of the tumor necrosis factor family, is a cytokine produced by lymphocytes. LTA is highly inducible, secreted, and exists as homotrimeric molecule. LTA forms heterotrimers with lymphotoxin-beta which anchors lymphotoxin-alpha to the cell surface. LTA mediates a large variety of inflammatory, immunostimulatory, and antiviral responses. LTA is also involved in the formation of secondary lymphoid organs during development and plays a role in apoptosis.

### **Description:**

Tumor Necrosis Factor-b Human Recombinant (Lymphotoxin) produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 172 amino acids and having a molecular mass of 18645 Dalton.

The TNF-b is purified by standard chromatographic techniques.

### **Physical Appearance:**

Sterile Filtered White lyophilized (freeze-dried) powder.

### **Formulation:**

Lyophilized protein with no additives.

### **Solubility:**

It is recommended to reconstitute the lyophilized Tumor Necrosis Factor-beta in sterile 18MΩ-cm H<sub>2</sub>O not less than 100μg/ml, which can then be further diluted to other aqueous solutions.

### **Purity:**

Greater than 98.0% as determined by (a) Analysis by RP-HPLC.  
(b) Analysis by SDS-PAGE.

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



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### ***Stability:***

Lyophilized Tumor Necrosis Factor-b although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution TNF-b 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.**

### ***Amino Acid Sequence:***

MLPGVGLTPS AAQTARQHPK MHLAHSTLKP AAHLIGDPSK QNSLLWRANT  
DRAFLQDGFS LSNNSLLVPT SGIYFVYSQV VFSGKAYSPK ATSSPLYLAH  
EVQLFSSQYP FHVPLLSSQK MVYPGLQEPW LHSMYHGAAF QLTQGDQLST  
HTDGIPHLVL SPSTVFFGAF AL.

### ***Biological Activity***

The ED50 as determined by the cytolysis of murine L929 cells in the presence of Actinomycin D is < 0.05 ng/ml, corresponding to a Specific Activity of 20MIU/mg.

### ***Protein content***

Protein quantitation was carried out by two independent methods

1. UV spectroscopy at 280 nm using the absorbency value of 1.082 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-b as a Reference Standard.

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