Recombinant Human Tumor Necrosis Factor-beta (rh TNF-beta)

Synonyms: Lymphotoxin-alpha, LT-alpha, Tumor necrosis factor ligand superfamily member 1, LTA, LT, TNFSF1.

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

Description: Recombinant human TNF-beta produced in *E.Coli* is a single, non-glycosylated, polypeptide chain containing 171 amino acids and having a molecular mass of 18645 Dalton. The rh TNF-beta is purified by standard chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized with no additives.
The aliquots/samples of 1µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rh TNF-beta in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rh TNF-beta, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution rh TNF-beta should be stored at 4°C between 2-7 days and for future use below –18°C. For long term storage it is recommendet to add a carrier protein (0,1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity: Greater than 98.0% as determined by RP-HPLC and by SDS-PAGE.

Amino Acid Sequence: The sequence of the first five N-terminal amino acids was determined and was found to be Met-Val-Arg-Ser-Ser.

Biological Activity: The ED_{50} as determined by the cytolysis of murine L929 cells in the presence of Actinomycin D is less than 0.05ng/ml, corresponding to a Specific Activity of 2.0×10^7 IU/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 rh TNF-beta as a Reference Standard.

This material is offered for **research use only**. Not for use in human. For in vitro use only. ImmunoTools will not be held responsible for patent infringement or other violations that may occur with the use of our products.

small	5 µg	Cat.N°	11343030
medium	20 µg	Cat.N°	11343034
large	100 µg	Cat.N°	11343036

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