Human TNF-beta / TNFSF1 / Lymphotoxin alpha Protein

Catalog Number: 10270-HNAE

Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

LT; TNFB; TNFSF1

Protein Construction:

A DNA sequence encoding the mature form of human TNFβ (P01374) (Leu 35-Leu 205) was expressed and purified, with an initial Met at the N-terminus.

Source: Human

Expression Host: E. coli

QC Testing

Purity: ≥ 95 % as determined by SDS-PAGE, ≥ 85% as determined by SEC-MALS(Routinely tested).

Bio Activity:

Measured in a cytotoxicity assay using L929 mouse fibrosarcoma cells in the presence of the metabolic inhibitor actinomycin D. The ED50 for this effect is typically 2-20 pg/mL.

Endotoxin:

Please contact us for more information.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Met

Molecular Mass:

The recombinant human TNFβ comprises 172 amino acids and predicts a molecular mass of 18.8 kDa as estimated in SDS-PAGE under reducing conditions. The molecular weight of this protein is around 58.5 kDa verified by SEC-MALS (Routinely tested).

Formulation:

Lyophilized from sterile 50mM Tris, pH 8.0

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

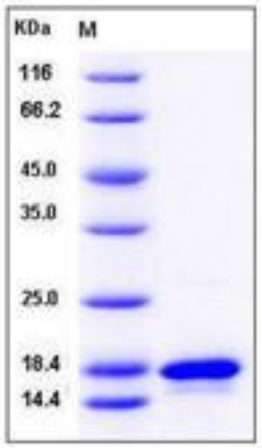
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Lymphotoxin-alpha, also known as LT-alpha, TNF-beta, Tumor necrosis factor ligand superfamily member 1, LTA TNFSF1 and TNFB, is a secreted protein which belongs to the tumor necrosis factor family. TNF-beta/TNFSF1/Lymphotoxin alpha is a highly inducible, secreted, and exists as homotrimeric molecule. It is a cytokine that in its homotrimeric form binds to TNFRSF1A / TNFR1, TNFRSF1B / TNFBR and TNFRSF14 / HVEM. In its heterotrimeric form with LTB, TNF-beta/TNFSF1/Lymphotoxin alpha binds to TNFRSF3 / LTBR. Lymphotoxin is produced by lymphocytes and cytotoxic for a wide range of tumor cells. TNF-beta/TNFSF1/Lymphotoxin alpha forms heterotrimers with lymphotoxin-beta which anchors lymphotoxin-alpha to the cell surface. It mediates a large variety of inflammatory, immunostimulatory, and antiviral responses. TNF-beta/TNFSF1/Lymphotoxin alpha is also involved in the formation of secondary lymphoid organs during development and plays a role in apoptosis. Genetic variations in TNF-beta/TNFSF1/Lymphotoxin alpha are a cause of susceptibility psoriatic arthritis which is an inflammatory, seronegative arthritis associated with psoriasis. It is a heterogeneous disorder ranging from a mild, non-destructive disease to a severe, progressive, erosive arthropathy.

References

1.Messer G, *et al.* (1991) Polymorphic structure of the tumor necrosis factor (TNF) locus: an NcoI polymorphism in the first intron of the human TNF-beta gene correlates with a variant amino acid in position 26 and a reduced level of TNF-beta production. J Exp Med. 173(1): 209-19. 2.Banner DW, *et al.* (1993) Crystal structure of the soluble human 55 kd TNF receptor-human TNF beta complex: implications for TNF receptor activation. Cell. 73(3): 431-45. 3.Picarella DE, *et al.* (1993) Transgenic tumor necrosis factor (TNF)-alpha production in pancreatic islets leads to insulitis, not diabetes. Distinct patterns of inflammation in TNF-alpha and TNF-beta transgenic mice. J Immunol. 150(9): 4136-50.