

Cytokines

Human Recombinant TNF-beta



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Tumor necrosis factor beta

Catalog # 78125
78125.1

10 µg
50 µg

Product Description

Tumor necrosis factor-beta (TNF-β), also known as lymphotoxin-alpha, is a member of the TNF family. It is a pro-inflammatory cytokine that activates NF-κB, MAPK, and PI3K/AKT pathways upon binding to TNF receptors 1 and 2. It is produced mainly by T cells, though other cells can express TNF-β at lower levels (Chu). TNF-β is involved in autoimmune disorders, lymph node development, and mediating the inflammatory demyelination process (Seleznik et al.; McCarthy et al.).

Product Information

Alternative Names: LT-α, Lymphotoxin-alpha, TNF-beta, TNFSF1, Tumor necrosis factor-β
Accession Number: P01374
Amino Acid Sequence: MLPGVGLTPS AAQTARQHPK MHLAHSTLKP AAHLIGDPSK QNSLLWRANT DRAFLQDGFS LSNNSLLVPT SGIYFVYSQV VFSGKAYSPK ATSSPLYLAH EVQLFSSQYP FHVPLLSSQK MVYPGLQEPW LHSMYHGAAF QLTQGDQLST HTDGIPHLVL SPSTVFFGAF AL
Predicted Molecular Mass: 18.8 kDa
Species: Human
Cross Reactivity: Mouse
Formulation: Lyophilized after dialysis against phosphate-buffered saline.
Source: E. coli

Specifications

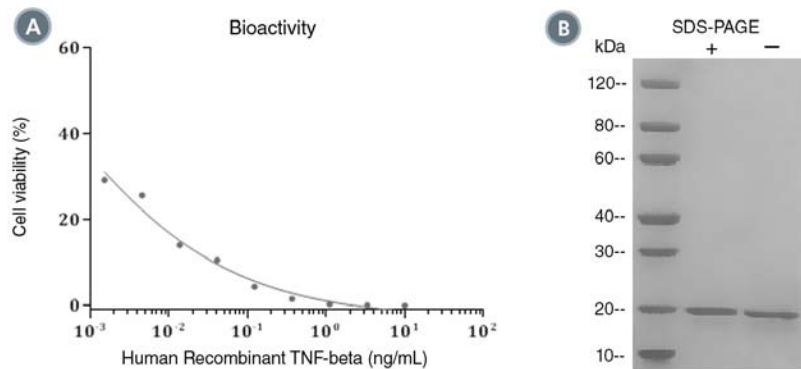
Activity: The specific activity is $\geq 2.5 \times 10^8$ units/mg ($EC_{50} \leq 0.004$ ng/mL) as determined by a cytotoxicity assay of mouse L929 fibrosarcoma cells in the presence of actinomycin D.
Purity: $\geq 95\%$
Endotoxin Level: Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is ≤ 0.2 EU/µg protein.

Preparation and Storage

Storage: Store at -80°C.
Stability: Stable as supplied for 12 months from date of receipt.
Preparation: Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex.

OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 week or at -20°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant TNF-beta was tested by its ability to inhibit growth of mouse L929 cells in the presence of actinomycin D. Cell growth was measured using a fluorometric assay method. The EC₅₀ is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC₅₀ in the above example is less than 0.004 ng/mL.

(B) 2 µg of Human Recombinant TNF-beta was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant TNF-beta has a predicted molecular mass of 18.8 kDa.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

- Chu W-M. (2013) Tumor necrosis factor. *Cancer Lett* 328(2): 222–5.
- McCarthy DD et al. (2006) The lymphotoxin pathway: beyond lymph node development. *Immunol Res* 35(1–2): 41–54.
- Seleznik GM et al. (2014) The role of lymphotoxin signaling in the development of autoimmune pancreatitis and associated secondary extra-pancreatic pathologies. *Cytokine Growth Factor Rev* 25(2): 125–37.

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