Cytokines

Mouse Recombinant TNF-alpha

Tumor necrosis factor alpha

Catalog #	78069.1	20 µg
	78069	100 µg
	78069.2	500 µg
	78069.3	1000 µg

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Product Description

Tumor necrosis factor-α (TNF-α) is a pro-inflammatory cytokine that activates NF-κB, MAPK, and PI3K/AKT pathways. Activated T cells and macrophages are the primary producers of TNF-α in response to inflammation and infectious conditions. Many other cell types have been shown to produce TNF-α, among them B cells, NK cells, mast cells, neutrophils, dendritic cells, microglia, endothelial cells, smooth muscle cells, cardiomyocytes, and fibroblasts. TNF-α has cytotoxic effects on cancer cells in vitro by stimulating anti-tumor immunosuppressive responses. TNF-α stimulates expression of E- and P-selectins, thus facilitating adhesion of neutrophils, monocytes, and memory T cells to activated platelets and endothelial cells (Zelová & Hosek). Other effects of TNF-α include vasodilatation and edema formation.

Product Information

Alternative Names:	Cachectin, Cachexin, Cytotoxin, DIF, Necrosin, TNF, TNF-α, TNFSF2, Tumor necrosis factor-α
Accession Number:	P06804
Amino Acid Sequence:	MLRSSSQNSS DKPVAHVVAN HQVEEQLEWL SQRANALLAN GMDLKDNQLV VPADGLYLVY SQVLFKGQGC PDYVLLTHTV SRFAISYQEK VNLLSAVKSP CPKDTPEGAE LKPWYEPIYL GGVFQLEKGD QLSAEVNLPK YLDFAESGQV YFGVIAL
Predicted Molecular Mass:	17.4 kDa
Species:	Mouse
Cross Reactivity:	Human, Rat, Monkey
Formulation:	Lyophilized from a sterile-filtered aqueous solution containing sodium phosphate and sodium chloride, pH 7.5.
Source:	E. coli

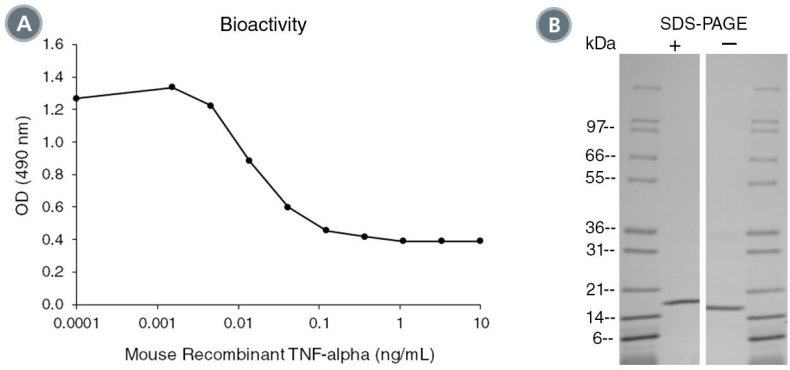
Specifications

Activity:	The specific activity is ≥ 1 x 10^7 units/mg (EC50 ≤ 0.1 ng/mL) as determined by the cytolysis of mouse L929 cells growing in the presence of actinomycin D.
Purity:	≥ 95%
Endotoxin Level:	Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 1 EU/µg protein.

Preparation and Storage

Storage:	Store at -20°C to -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 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Mouse Recombinant TNF-alpha was tested by its ability to induce cytolysis of mouse L929 cells growing in the presence of actinomycin D. Cell viability was measured after 19 hours of culture using a fluorometric assay method. The EC50 is defined as the effective concentration of the growth factor at which cell viability is at 50% of maximum. The EC50 in the above example is 0.013 - 0.02 ng/mL.
(B) 1 µg of Mouse Recombinant TNF-alpha was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Mouse Recombinant TNF-alpha has a predicted molecular mass of 17.4 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

Zelová H & Hošek J. (2013) TNF-α signalling and inflammation: interactions between old acquaintances. Inflamm Res 62(7): 641–51.