Animal-Free TNF-alpha/TNFSF2 Protein, Mouse (His)

Cat. No.:	HY-P7417AF
Synonyms:	rMuTNF-α/TNFSF2; TNF-alpha; Cachectin; DIF; TNFA; Differentiation-inducing factor
Species:	Mouse
Source:	E. coli
Accession:	P06804 (L80-L235)
Gene ID:	21926
Molecular Weight:	Approximately 18.20 kDa

PROPERTIES

AA Sequence	M L R S S S Q N S S D K P V A H V V A N H Q V E E Q L E W L S Q R A N A L L A N G M D L K D N Q L V V P A D G L Y L V Y S Q V L F K G Q G C P D Y V L L T H T V S R F A I S Y Q E K V N L L S A V K S P C P K D T P E G A E L K P W Y E P I Y L G G V F Q L E K G D Q L S A E V N L P K Y L D F A E S G Q V Y F G V I A L
Biological Activity	Measure by its ability to induce cytotoxicity in L929 cells in the presence of actinomycin D. The ED_{50} for this effect is <40 pg/mL. The specific activity of recombinant mouse TNF alpha is approximately >2.5x 10^7 IU/mg
Appearance	Lyophilized powder
Formulation	Lyophilized from a solution containing 1X PBS, pH 8.0.
Endotoxin Level	<0.1 EU per 1 μg of the protein by the LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	TNF-alpha/TNFSF2 Protein is a cytokine that binds to TNFRSF1A/TNFR1 and TNFRSF1B/TNFBR. Secreted mainly by macrophages, it can induce cell death in certain tumor cell lines. Additionally, it acts as a potent pyrogen, causing fever through direct action or by stimulating interleukin-1 secretion and is implicated in the induction of cachexia. Under specific conditions, it can stimulate cell proliferation and promote cell differentiation. In adipocytes, it induces insulin resistance by inhibiting insulin-induced IRS1 tyrosine phosphorylation and glucose uptake, while also leading to GKAP42 protein degradation, contributing to TNF-induced insulin resistance. TNF-alpha/TNFSF2 Protein plays a role in angiogenesis by

synergistically inducing VEGF production with IL1B and IL6. Furthermore, it facilitates osteoclastogenesis, thereby mediating bone resorption. Finally, the TNF intracellular domain (ICD) form of TNF-alpha/TNFSF2 Protein stimulates IL12 production in dendritic cells.

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