

TNF-alpha/TNFSF2 Protein, Guinea (N-His)

Cat. No.:	HY-P79165A
Synonyms:	DIF; TNF-alpha; TNFA; TNFSF2; cachexin; cachectin; TNFα; Tumor Necrosis Factor alpha
Species:	Others
Source:	E. coli
Accession:	P51435 (L79-L234)
Gene ID:	100135630
Molecular Weight:	Approximately 19 kDa

PROPERTIES

AA Sequence	<div> <div>L R S A S Q N D N D</div> <div>K P V A H V V A N Q</div> <div>Q A E E E L Q W L S</div> <div>K R A N A L L A N G</div> <div>M G L S D N Q L V V</div> <div>P S D G L Y L I Y S</div> <div>Q V L F K G Q G C P</div> <div>S Y L L L T H T V S</div> <div>R L A V S Y P E K V</div> <div>N L L S A I K S P C</div> <div>Q K E T P E G A E R</div> <div>K P W Y E P I Y L G</div> <div>G V F Q L Q K G D R</div> <div>L S A E V N L P Q Y</div> <div>L D F A D S G Q I Y</div> <div>F G V I A L</div> </div>
Biological Activity	Measured in a cytotoxicity assay using L-929 mouse fibroblast cells in the presence of the metabolic inhibitor actinomycin D. The ED ₅₀ this effect is 0.04334 ng/mL, corresponding to a specific activity is 2.307×10 ⁷ units/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of 50 mM Tris-HCL, 300 mM NaCl, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
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, a cytokine, binds to TNFRSF1A/TNFR1 and TNFRSF1B/TNFR. Predominantly secreted by macrophages, it possesses the ability to induce cell death in specific tumor cell lines and serves as a potent pyrogen, causing fever through direct action or by stimulating interleukin-1 secretion. TNF-alpha is implicated in the induction of cachexia, and under certain conditions, it can stimulate cell proliferation and induce cell differentiation. Moreover, it induces insulin resistance in adipocytes by inhibiting insulin-induced IRS1 tyrosine phosphorylation and insulin-induced
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glucose uptake, contributing to GKAP42 protein degradation in adipocytes and, consequently, TNF-induced insulin resistance. Beyond its metabolic effects, TNF-alpha plays a role in angiogenesis by synergistically inducing VEGF production with IL1B and IL6. Additionally, it promotes osteoclastogenesis, mediating bone resorption, and its intracellular domain (ICD) form induces IL12 production in dendritic cells, underscoring its multifaceted impact on diverse physiological processes.

Caution: Product has not been fully validated for medical applications. For research use only.

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