

TNF-alpha/TNFSF2 Protein, Equine

Cat. No.:	HY-P79099
Synonyms:	DIF; TNFalpha; TNFA; TNFSF2; cachexin; cachectin; TNF α
Species:	Equine
Source:	E. coli
Accession:	NP_001075288 (L78-L234)
Gene ID:	100033834
Molecular Weight:	Approximately 19.36 kDa

PROPERTIES

AA Sequence	<pre> L R S S S R T P S D K P V A H V V A N P Q A E G Q L Q W L S G R A N A L L A N G V K L T D N Q L V V P L D G L Y L I Y S Q V L F K G Q G C P S T H V L L T H T I S R L A V S Y P S K V N L L S A I K S P C H T E S P E Q A E A K P W Y E P I Y L G G V F Q L E K G D Q L S A E I N Q P N Y L D F A E S G Q V Y F G I I A L </pre>
Biological Activity	Measured in a cytotoxicity assay using L-929 mouse fibroblast cells in the presence of the metabolic inhibitor actinomycin D. The ED50 for this effect is 122 pg/mL, corresponding to a specific activity is 8.20 \times 10 ⁶ units/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μ m filtered solution of 20 mM PB, 150 mM NaCl, pH 7.4.
Endotoxin Level	<1 EU/ μ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 25 μ g/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/TNFB, predominantly secreted by macrophages and exhibiting diverse biological functions. It possesses the capability to induce cell death in specific tumor cell lines, serving as a potent pyrogen that can cause fever through direct action or by stimulating interleukin-1 secretion, and is implicated in the induction of cachexia. Under certain conditions, TNF-alpha/TNFSF2 can play a role in both stimulating cell proliferation and inducing cell differentiation. It also contributes to insulin resistance in adipocytes by
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inhibiting insulin-induced IRS1 tyrosine phosphorylation and glucose uptake, with additional effects on GKAP42 protein degradation. Furthermore, TNF-alpha/TNFSF2 participates in angiogenesis by synergistically inducing VEGF production with IL1B and IL6, and promotes osteoclastogenesis, thereby mediating bone resorption. The intracellular domain (ICD) form of TNF-alpha induces IL12 production in dendritic cells, further highlighting its multifaceted impact on diverse cellular processes.

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

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