

## TNF-alpha/TNFSF2 Protein, Bovine (His)

Cat. No.:	HY-P700522
Synonyms:	rHuTNF- $\alpha$ , His; Cachectin; TNFSF2
Species:	Bovine
Source:	E. coli
Accession:	Q06599 (L78-L234)
Gene ID:	280943
Molecular Weight:	21.4 kDa

### PROPERTIES

AA Sequence	<pre> L R S S S Q A S S N   K P V A H V V A D I   N S P G Q L R W W D   S Y A N A L M A N G V K L E D N Q L V V   P A D G L Y L I Y S   Q V L F R G Q G C P   S T P L F L T H T I S R I A V S Y Q T K   V N I L S A I K S P   C H R E T P E W A E   A K P W Y E P I Y Q G G V F Q L E K G D   R L S A E I N L P D   Y L D Y A E S G Q V   Y F G I I A L           </pre>
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 $\mu$ m filtered solution of Tris/PBS-based buffer, 6% Trehalose, pH 8.0.
Endotoxin Level	<1 EU/ $\mu$ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 $\mu$ g/mL in ddH <sub>2</sub> O.
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	<p>TNF-alpha/TNFSF2 protein, a cytokine, binds to TNFRSF1A/TNFR1 and TNFRSF1B/TNFR. Primarily secreted by macrophages, it demonstrates the capacity to induce cell death in specific tumor cell lines and acts as a potent pyrogen, causing fever either through direct action or by stimulating interleukin-1 secretion. Additionally, TNF-alpha is implicated in the induction of cachexia, and under certain conditions, it can promote cell proliferation and induce cell differentiation. Its impact extends to inducing insulin resistance in adipocytes by inhibiting insulin-induced IRS1 tyrosine phosphorylation and glucose uptake, leading to GKAP42 protein degradation and TNF-induced insulin resistance. Playing a role in angiogenesis, TNF-alpha collaboratively induces VEGF production with IL1B and IL6. Furthermore, it facilitates osteoclastogenesis, contributing to bone resorption. Notably, the TNF intracellular domain (ICD) form elicits IL12 production in dendritic cells, showcasing its diverse involvement across various physiological processes.</p>
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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