TNFRSF1A Protein, Human (His)

Cat. No.:	HY-P70801
Synonyms:	Tumor necrosis factor receptor superfamily member 1A; Tumor necrosis factor receptor 1; TNF-R1; Tumor necrosis factor receptor type I; TNF-RI; TNFR-I; TNFAR; TNFR1
Species:	Human
Source:	E. coli
Accession:	P19438 (I22-T211)
Gene ID:	7132
Molecular Weight:	Approximately 22.0 kDa

PROPERTIES

AA Sequence	I Y P S G V I G L V P H L G D R E K R D S V C P Q G K Y I H P Q N N S I C C T K C H K G T Y L Y N D C P G P G Q D T D C R E C E S G S F T A S E N H L R H C L S C S K C R K E M G Q V E I S S C T V D R D T V C G C R K N Q Y R H Y W S E N L F Q C F N C S L C L N G T V H L S C Q E K Q N T V C T C H A G F F L R E N E C V S C S N C K K S L E C T K L C L P Q I E N V K G T E D S G T T
Biological Activity	Measured by its ability to inhibit the TNF-alpha mediated cytotoxicity inthe L-929 mouse fibroblast cells in the presence of the metabolic inhibitoractinomycin D.The ED_{50} for this effect is 0.07651 μg/mL in the presence of 0.25 ng/mL of recombinant humanTNF-alpha, corresponding to a specific activity is 1.307×10^4 units/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. 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	TNFRSF1A (TNF RI) protein is a single-pass type I membrane protein belonging to the tumor necrosis factor (TNF) family. TNFRSF1A is the major signaling receptor for TNF-α. TNFRSF1A protein is a multifunctional cytokine, which is synthesized by almost all cells[1][2].

The sequence of amino acids in TNFRSF1A from different species is very different (less than 85% similarity among human, rat and mouse).

TNFRSF1A contains a protein-protein interaction domain, called death domain (DD), can recruit other DD-containing proteins and couples the death receptors to caspase activation and apoptosis. Both soluble and membrane-bound forms of the cytokine can activate TNFRSF1A. TNFRSF1A induces cellular inflammatory damage and apoptosis by participating in mTOR, JNK, IKK, caspase 3, MAPK, and NF-κB pathways[1][3][4].

REFERENCES

[1]. WajantH, et, al. Tumor necrosis factor signaling. Cell Death Differ. 2003Jan;10(1):45-65.

[2]. FuQ, et, al. miR-29a up-regulation in AR42J cells contributes to apoptosis viatargeting TNFRSF1A gene. World J Gastroenterol. 2016 May 28;22(20):4881-90.

[3]. Zhou S, et, al. Bioinformatics AnalysisIdentifies TNFRSF1A as a Biomarker of Liver Injury in Sepsis TNFRSF1A is aBiomarker for Septic Liver Injury. Genet Res (Camb). 2022 Oct 15;2022:1493744.

[4]. EgusquiaguirreSP, et, al. The STAT3 Target Gene TNFRSF1A Modulates the NF-κB Pathway inBreast Cancer Cells. Neoplasia. 2018 May;20(5):489-498.

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