TNFRII Protein, Human (HEK293, hFc)

Cat. No.:	HY-P72025
Synonyms:	Tumor necrosis factor receptor 2; TNF-R2; Tumor necrosis factor receptor type II; TNF-RII; TNFR-II; p75; p80 TNF-alpha receptor; CD120b; Etanercept; TBP-2; TBPII;
Species:	Human
Source:	HEK293
Accession:	P20333 (L23-D257)
Gene ID:	7133
Molecular Weight:	Approximately 68 kDa

PROPERTIES

AA Sequence	L P A Q V A F T P Y A P E P G S T C R L R E Y Y D Q T A Q M C C S K C S P G Q H A K V F C T K T S D T V C D S C E D S T Y T Q L W N W V P E C L S C G S R C S S D Q V E T Q A C T R E Q N R I C T C R P G W Y C A L S K Q E G C R L C A P L R K C R P G F G V A R P G T E T S D V V C K P C A P G T F S N T T S S T D I C R P H Q I C N V V A I P G N A S M D A V C T S T S P T R S M A P G A V H L P Q P V S T R S Q H T Q P T P E P S T A P S T S F L L P M G P S P P A E G S T G D
Biological Activity	Measured by its ability to inhibit the TNF-alpha mediated cytotoxicity in the L929 mouse fibroblast cells in the presence of the metabolic inhibitor actinomycin D. The ED_{50} for this effect, in the presence of 0.25 ng/mL of TNF-alpha, is 0.0014 μg/mL corresponding to a specific activity is 7.143×10^5 units/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm solution of Tris/PBS-based buffer, 6% Trehalose, pH 8.0.
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.
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	TNFRII (TNFRSF1B) protein is a single-pass type I membrane protein belonging to the tumor necrosis factor (TNF) family. TNFRII is the major signaling receptor for TNF-α. TNFRII protein is highly regulated and typically found in immune system cells[1].

The amino acid sequence of mouse TNFRII protein has low homology between human and rhesus macaque TNFRII protein (less than 85%). The amino acid sequence of TNFRII protein in human and rhesus macaque is very similar (percent identity matrix of 95.88%).
TNFRII induces apoptosis. TNFRII does not directly engage the apoptotic program, but relies on the induction of endogenous, membrane-bound TNF, which subsequently activates TNFRI. TNFRII stimulates the action of the endogenously produced membrane-bound TNF on TNFRI is drastically enhanced. TNFRII competes with TNFRI for the recruitment of newly synthesized TRAF2-bound anti-apoptotic factors, thereby promoting the formation of a caspase-8-activating TNFRI complex. TNFRII competes with TNFRI for binding of TRAF2 and the TRAF2-associated anti-apoptotic cIAP1 and cIAP2 proteins. cIAP1-initiated degradation of TRAF2, which in turn enhances receptor competition for the remaining TRAF2, cIAP1 and cIAP2 molecules. cIAP1 would have an anti-apoptotic function upon recruitment into the TNFRI signalling complex, but would switch to a net proapoptotic function upon recruitment into the TNFRII signalling complex[1][2][3].

REFERENCES

[1]. Wajant H, et, al. Tumor necrosis factorsignaling. Cell Death Differ. 2003 Jan;10(1):45-65.

[2]. Fotin-Mleczek M, et, al. Apoptoticcrosstalk of TNF receptors: TNF-R2-induces depletion of TRAF2 and IAP proteinsand accelerates TNF-R1-dependent activation of caspase-8. J Cell Sci. 2002 Jul1;115(Pt 13):2757-70.

[3]. Masli S, et, al. Anti-inflammatory effectsof tumour necrosis factor (TNF)-alpha are mediated via TNF-R2 (p75) intolerogenic transforming growth factor-beta-treated antigen-presenting cells.Immunology. 2009 May;127(1):62-72.

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