

## TNFR2 Protein, Human (HEK293, hFc)

<b>Cat. No.:</b>	HY-P72025
<b>Synonyms:</b>	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; TBP2;
<b>Species:</b>	Human
<b>Source:</b>	HEK293
<b>Accession:</b>	P20333 (L23-D257)
<b>Gene ID:</b>	7133
<b>Molecular Weight:</b>	Approximately 68 kDa

### PROPERTIES

<b>AA Sequence</b>	<pre> 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 </pre>
<b>Biological Activity</b>	<p>1. Measured by its ability to inhibit the TNF-alpha mediated cytotoxicity in the L-929 mouse fibroblast cells in the presence of the metabolic inhibitor actinomycin D. The ED<sub>50</sub> 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<sup>5</sup> units/mg.</p> <p>2. Measured by its binding ability in a functional ELISA. Immobilized TNF-α at 0.5 µg/ml can bind human TNFR2, the EC50 of human TNFR2 protein is 1.367 - 2.114 ng/ml.</p>
<b>Appearance</b>	Lyophilized powder
<b>Formulation</b>	Lyophilized from a 0.2 µm solution of PBS, 6% Trehalose, pH 7.4.
<b>Endotoxin Level</b>	<1 EU/µg, determined by LAL method.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O.
<b>Storage &amp; Stability</b>	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.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

<b>Background</b>	TNFR2 (TNFRSF1B) protein is a single-pass type I membrane protein belonging to the tumor necrosis factor (TNF) family.
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TNFRII is the major signaling receptor for TNF- $\alpha$ . TNFRII protein is highly regulated and typically found in immune system cells<sup>[1]</sup>.

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<sup>[1][2][3]</sup>.

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## REFERENCES

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

[2]. Fotin-Mleczek M, et, al. Apoptoticcrossstalk 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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**Caution: Product has not been fully validated for medical applications. For research use only.**

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