

Thrombopoietin

Human, Recombinant (rHuTPO)

Expressed in CHO

Cat. No. CRP0894

Lot. No. (See product label)

PRODUCT INFORMATION

Description: Thrombopoietin (Tpo), the ligand for the receptor encoded by the c-Mpl proto-oncogene, is a key regulator of megakaryocytopoiesis and thrombopoiesis in vitro and in vivo. The cDNAs for Tpo have recently been cloned from canine, murine and human sources. The proteins from these three species are highly conserved, exhibiting from 69-75% sequence identity at the amino acid level. Human Tpo cDNA encodes a 353 amino acid residue protein with a 21 amino acid residue signal peptide that is cleaved to yield the 332 amino acid residue mature protein. Two distinct domains, separated by a pair of arginine residues that may be a proteolytic cleavage site, have been identified in Tpo: the amino terminal region exhibiting sequence homology to erythropoietin and the carboxy terminal region containing multiple potential N-linked glycosylation sites. Recombinant Tpo has now been shown to stimulate the maturation, as well as the proliferation, of megakaryocytes and may have important therapeutic applications for the treatment of various clinical conditions associated with thrombocytopenia.

Amino-Acid Sequence: 332 aa, glycosylated.

M. W. : Consisting of a 332 amino acid residue with a predicted molecular mass of approximately 35 kDa. As a result of glycosylation, the recombinant protein migrates with an apparent molecular mass of 80±10 kDa in SDS-PAGE.

Recombinant: Expressed in CHO.

Purity: >98% as determined by SDS-PAGE and HPLC.

Physical Appearance: Sterile Filtered White Lyophilized (freeze-dried) powder.

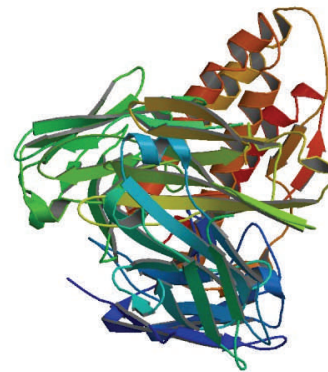
Formulation: Lyophilized from a 0.2µm filtered concentrated (1mg/ml) solution in PBS, pH 7.4.

Specific Activity: Fully biologically active when compared to standard. The ED50 as determined by the dose-dependant stimulation of Mo7e cells is typically 1-3 ng/ml, corresponding to a Specific Activity of 1 x 10⁶ IU/mg.

Endotoxin: Less than 1EU/µg of rHuTPO as determined by LAL method.

Reconstitution: Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/ml. Stock solutions should be apportioned into working aliquots and stored at ≤20°C. Further dilutions should be made in appropriate buffered solutions.

Storage: This lyophilized preparation is stable for several weeks at 2-8°C, but should be kept at -20°C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8°C. For maximal Stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -70°C. Avoid repeated freeze/thaw cycles.



[PDB](#) rendering based on 1v7m.

GENE INFORMATION

Gene Name: [THPO](#)

Synonyms: Megakaryocyte colony-stimulating factor, Myeloproliferative leukemia virus oncogene ligand, C-mpl ligand, ML, Megakaryocyte growth and development factor, MGDF, TPO, MKCSF, ML, MPLLG, MGC163194, Leukemia virus oncogene ligand; thrombopoietin;MPL ligand;c-mpl ligand; thrombopoietin nirs variant 1; megakaryocyte stimulating factor

mRNA Refseq: [NM_199228](#)

Protein Refseq: [NP_954698](#)

MIM: [600044](#)

GenelD: [7066](#)

UniProt ID: [P40225](#)

Chromosome Location: 3q27

Pathway: Hematopoietic cell lineage

Function: cytokine activity ; growth factor activity; hormone activity

REFERENCES

- 1.Kato T, Matsumoto A, Ogami K, et al. (1999). "Native thrombopoietin: structure and function". *Stem Cells* 16 (5): 322-8.
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- 3.Geddis AE, Linden HM, Kaushansky K (2002). "Thrombopoietin: a pan-hematopoietic cytokine". *Cytokine Growth Factor Rev.* 13 (1): 61-73.
- 4.von dem Borne A, Folman C, van den Oudenrijn S, et al. (2002). "The potential role of thrombopoietin in idiopathic thrombocytopenic purpura". *Blood Rev.* 16 (1): 57-9.

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