

# Recombinant Human Thrombopoietin

**Cat. No.** THPO-26H    **Lot. No.** (See product label)

## SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| <b>Product Overview</b> | Recombinant human TPO produced in <i>CHO</i> , consisting of a 332 amino acid residue with a predicted molecular mass of approximately 35 kDa, migrates with an apparent molecular mass of 80±10 kDa in SDS-PAGE as a result of glycosylation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Source</b>           | CHO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Description</b>      | <p>Thrombopoietin (Tpo), the ligand for the receptor encoded by the <i>c-Mpl</i>/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.</p> |
| <b>Purity</b>           | >98% by SDS-PAGE and HPLC analyses.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Specific Activity</b>   | 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 $1 \times 10^6$ IU/mg.                                                                                                                                                                                                                                     |
| <b>Physical Appearance</b> | Sterile Filtered White lyophilized (freeze-dried) powder.                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Formulation</b>         | Lyophilized from a 0.2µm filtered concentrated (1mg/ml) solution in PBS, pH 7.4.                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Endotoxin</b>           | Less than 1EU/µg of rHuTPO as determined by LAL method.                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Reconstitution</b>      | We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. 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 $\leq 20^\circ\text{C}$ . Further dilutions should be made in appropriate buffered solutions.                                                    |
| <b>Storage</b>             | This lyophilized preparation is stable for several weeks at $2-8^\circ\text{C}$ , but should be kept at $-20^\circ\text{C}$ for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at $2-8^\circ\text{C}$ . For maximal stability, apportion the reconstituted preparation into working aliquots and store at $-20^\circ\text{C}$ to $-70^\circ\text{C}$ . Avoid repeated freeze/thaw cycles. |

## GENE INFORMATION

|                  |                                                                                                                                                                                                                                                                                                             |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b> | THPO                                                                                                                                                                                                                                                                                                        |
| <b>Synonyms</b>  | 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; |

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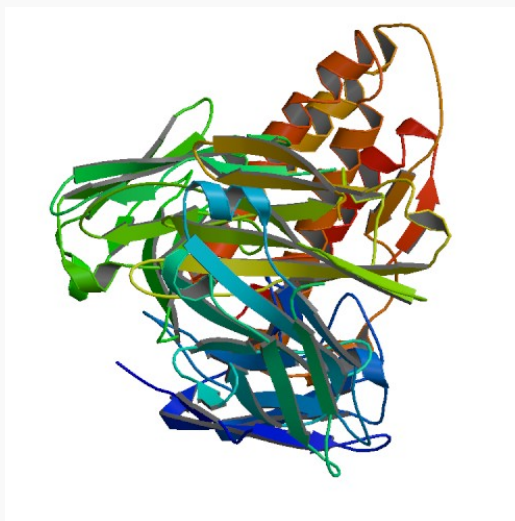
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megakaryocyte stimulating factor; THPO; thrombopoietinMegakaryocyte colony-stimulating factor, Myeloproliferative leukemia virus oncogene ligand, C-mpl ligand, ML, Megakaryocyte growth and development factor, MGDF, TPO, MKCSF, ML, MPLLG, MGC163194,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

|                            |                                                              |
|----------------------------|--------------------------------------------------------------|
| <b>Gene ID</b>             | 7066                                                         |
| <b>mRNA Refseq</b>         | NM_199228                                                    |
| <b>Protein Refseq</b>      | NP_954698                                                    |
| <b>MIM</b>                 | 600044                                                       |
| <b>UniProt ID</b>          | P40225                                                       |
| <b>Chromosome Location</b> | 3q27                                                         |
| <b>Pathway</b>             | Hematopoietic cell lineage                                   |
| <b>Function</b>            | cytokine activity ; growth factor activity; hormone activity |

PDBrendering based  
on 1v7m.



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