

Recombinant Human THPO, Fc-tagged therapeutic protein(Romiplostim)

Cat. No. THPO-P02H **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Recombinant Human endogenous thrombopoietin, Fc-tagged therapeutic protein is a fusion protein analog of thrombopoietin, a hormone that regulates platelet production. It is a thrombopoiesis stimulating dimer Fc-peptide fusion protein (peptibody) to increase platelet production through activation of the thrombopoietin receptor. The peptibody molecule has two identical single-chain subunits, each one is made up of 269 amino acid residues. Each subunit consists of an IgG1 Fc carrier domain that is covalently attached to a polypeptide sequence that contains two binding domains to interact with thrombopoietin receptor c-Mpl. Each domain consists of 14 amino acids. Interestingly, its amino acid sequence is not similar to that of endogenous thrombopoietin. It is produced by recombinant DNA technology in Escherichia coli.

Species Human

Source E.coli

Description

Megakaryocytopoiesis is the cellular development process that leads to platelet production. The main functional protein encoded by this gene is a humoral growth factor that is necessary for megakaryocyte proliferation and maturation, as well as for thrombopoiesis. This protein is the ligand for MLP/C_MPL, the product of myeloproliferative leukemia virus oncogene. Mutations in this gene are the cause of thrombocythemia 1. Alternative promoter usage and differential splicing result in multiple transcript variants differing in the 5' UTR and/or coding region. Multiple AUG codons upstream of the main open reading frame (ORF) have been identified, and

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these upstream AUGs inhibit translation of the main ORF at different extent.

Molecular Mass 59 kDa

AA Sequence

>Thrombopoietin receptor binding domain amino acid sequence IEGPTLRQWLAAR
 A>Amino acid sequence for Fc fusion compoundMDKTHTCPPCPAPPELLGGPSVFLF
 PPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNST
 YRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRD
 ELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFLYSKLTVD
 KSRWQQGNVFCFSVMHEALHNHYTQKSLSLSPGKGGGGGIEGPTLRQWLAARAG
 GGGGGGGIEGPTLRQWLAARA

Endotoxin < 0.1 EU per µg of the protein

Purity >95%

Alias ML; TPO; MGDF; MKCSF; MPLLG; THCYT1; Romiplostim

GENE INFORMATION

Gene Name THPO thrombopoietin [Homo sapiens]

Official Symbol THPO

Synonyms ML; TPO; MGDF; MKCSF; MPLLG; THCYT1; MPL ligand; c-mpl ligand; megakaryocyte colony-stimulating factor; megakaryocyte growth and development factor; megakaryocyte stimulating factor; myeloproliferative leukemia virus oncogene ligand; prepro-thrombopoietin

Gene ID 7066

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| mRNA Refseq | NM_000460 |
| Protein Refseq | NP_000451 |
| MIM | 600044 |
| UniProt ID | P40225 |
| Chromosome Location | 3q27.1 |
| Pathway | Cytokine-cytokine receptor interaction, organism-specific biosystem; Hematopoietic cell lineage, organism-specific biosystem; Platelet Aggregation (Plug Formation), organism-specific biosystem |
| Function | cytokine activity; growth factor activity; interleukin-11 receptor binding; hormone activity |

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