

Recombinant Human MPL Protein (Met1-Trp491), C-His tagged

Cat. No. MPL-4592H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human MPL (Met1-Trp491) fused with the C-terminal His tag was expressed in Mammalian cells.
Species	Human
Source	Mammalian Cells
ProteinLength	Met1-Trp491
Description	Thrombopoietin receptor (Tpo R), also known as myeloproliferative leukemia protein (c-mpl), is a 95 kDa type I transmembrane protein that is a member of the type I cytokine receptor family within the hematopoietin/cytokine receptor superfamily. The 635 amino acid (aa) full-length human Tpo R contains a 25 aa signal sequence, a 466 aa extracellular domain with a ligand binding domain and two fibronectin type III domains, a transmembrane (TM) domain and a cytoplasmic domain. The extracellular domain of human Tpo R shares 78%, 76%, 81%, 82% and 80% aa identity with mouse, rat, bovine, canine and equine Tpo R, respectively. Humans produce three distinct mRNA species; a P-form, a K-form, and a truncated form (Mpl-tr) lacking a TM domain. The P-form encodes the full-length receptor. The Mpl-tr form, which is expressed in both human and mouse, is intracellular and targets the P-form for degradation. The 579 aa K-form has an alternate cytoplasmic domain, but does not dimerize with, or inhibit, the P-form. Thrombopoietin (Tpo) is a key regulator of megakaryocytopoiesis, thrombopoiesis and hematopoietic stem cell self-renewal, as reflected by expression of the Tpo R on megakaryocytes, platelets and hematopoietic

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progenitors. Receptor dimerization occurs upon Tpo binding and initiates signaling through the Ras/MAP and JAK/STAT pathways. Internalization and degradation of Tpo following Tpo R binding serves to downregulate circulating Tpo. Tpo R expressed at low levels on endothelial cells does not appear to contribute to regulation of Tpo. Inactivating mutations of Tpo R cause thrombocytopenia, and absence of functional Tpo R is lethal in humans, but not mice. Other mutations, including an activating change in the TM domain, can cause thrombocytosis.

Form	Lyophilized powder/frozen liquid
Molecular Mass	54.01 kDa
Endotoxin	< 1.0 EU/μg of the protein as determined by the LAL method.
Purity	>90% as determined by SDS-PAGE.
Notes	For research use only.
Storage	Use a manual defrost freezer and avoid repeated freeze thaw cycles. Store at 2 to 8 centigrade for one week. Store at -20 to -80 centigrade for twelve months from the date of receipt.
Storage Buffer	Supplied as solution form in PBS or lyophilized from PBS.
Reconstitution	Reconstitute in sterile water for a stock solution.
Shipping	They are shipped out with dry ice/blue ice unless customers require otherwise.

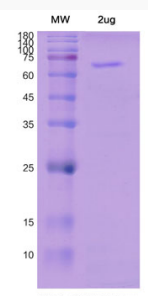
GENE INFORMATION

Gene Name MPL myeloproliferative leukemia virus oncogene [Homo sapiens (human)]

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Official Symbol	MPL
Synonyms	MPL; myeloproliferative leukemia virus oncogene; thrombopoietin receptor; CD110; TPOR; TPO-R; proto-oncogene c-Mpl; myeloproliferative leukemia protein; MPLV; C-MPL; THCYT2;
Gene ID	4352
mRNA Refseq	NM_005373
Protein Refseq	NP_005364
MIM	159530
UniProt ID	P40238
SDS-PAGE	 SDS-PAGE Image