

## C-MPL/TPO-R Protein, Human, Recombinant (His)

### General Information

Synonyms:	MPL proto-oncogene, thrombopoietin receptor; CD110; THCYT2; TPOR; MPLV; C-MPL
Protein Construction:	A DNA sequence encoding the Human MPL (P40238-1) (Met1-Trp491) was expressed with a polyhistidine tag at the C-terminus. Predicted N terminal: Gln 26
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P40238-1
Molecular Weight:	54 kDa (predicted); 68 kDa (reducing conditions)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	≥ 95 % as determined by SDS-PAGE. ≥ 90 % as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

#### Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

#### Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

CD11, also known as c-MPL, is a 635 amino acid transmembrane domain, with two extracellular cytokine receptor domains and two intracellular cytokine receptor box motifs. It is expressed at a low level in a large number of cells of hematopoietic origin. C-MPL is homologous with members of the hematopoietic receptor superfamily. The presence of anti-sense oligodeoxynucleotides of C-Mpl inhibited megakaryocyte colony formation.

Thrombopoietin is the ligand for C-Mpl. It was shown to be the major regulator of megakaryocytopoiesis and

platelet formation. Defects in c-MPL are a cause of congenital amegakaryocytic thrombocytopenia which is a disease characterized by isolated thrombocytopenia and Megakaryocytopenia with no physical anomalies. Defects in c-MPL also cause thrombocythemia type 2 and myelofibrosis with myeloid metaplasia.

### Reference

Vigon I.,et al.,(1992), Molecular cloning and characterization of MPL, the human homolog of the v-mpl oncogene: identification of a member of the hematopoietic growth factor receptor superfamily. Proc. Natl. Acad. Sci. U.S.A. 89:5640-5644.

Mignotte V.,et al., (1994), Structure and transcription of the human c-mpl gene (MPL).Genomics 20:5-12.

Gregory S.G.,et al.,(2006), The DNA sequence and biological annotation of human chromosome 1.Nature 441:315-321.

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