

Recombinant Human TPO Protein

Catalog Number: GMP-TL650

Product Name

Generic Name	Recombinant Human TPO Protein
Synonym	Thrombopoietin, Megakaryocyte colony-stimulating factor, c-MPL Ligand, MGDF.

Product Information

Protein sequence	A DNA sequence encoding the human TPO (NP_000451.1) was expressed with the C-terminal fused Fc region of human IgG1.
Expression Host	HEK293 Cells
QC Testing Purity	> 90 % as determined by SDS-PAGE
Activity	The ED ₅₀ as determined by the dose-dependent stimulation of the proliferation of human MO7e cells was ≤ 20 ng/ml.
Endotoxin Level	< 0.1 EU per µg of the protein as determined by the LAL method.
Molecular Mass	The recombinant human TPO consists of 434 amino acids and predicts a molecular mass of 47.9 kD.
Formulation	Lyophilized from sterile PBS, pH 7.4. Normally 6% mannitol are added as protectants before lyophilization. 24 months at 2 °C to 8 °C in lyophilized state. 6 months at -20 °C under sterile conditions after reconstitution.
Stability & Storage	12 months at -80 °C under sterile conditions after reconstitution. Recommend to aliquot the protein into smaller quantities after reconstituting with water for injection, normal saline or PBS, and keep the diluted concentration above 100 µg/mL. Avoid repeated freeze-thaw cycles.

Background

TPO is a lineage-specific growth factor produced in the liver, kidney and skeletal muscle. It stimulates the proliferation and maturation of megakaryocytes and promotes the increase of platelet circulation in the body. TPO signals through the c-MPL receptor and acts as an important regulator of circulating platelets. Human and murine TPO exhibit cross-species reactivity.

References

1. Thrombopoietin receptor-independent stimulation of hematopoietic stem cells by eltrombopag. Kao YR, Chen J, Narayanagari SR, Todorova TI, Aivalioti MM, Ferreira M, Ramos PM, Pallaud C, Mantzaris I, Shastri A, Bussel JB, Verma A, Steidl U, Will B. *Sci Transl Med*. 2018 Sep 12;10(458). pii: eaas9563. doi:10.1126/scitranslmed.aas9563.
2. Pharmacological characterization of hetrombopag, a novel orally active human thrombopoietin receptor agonist. Xie C, Zhao H, Bao X, Fu H, Lou L. *J Cell Mol Med*. 2018 Aug 29. doi: 10.1111/jcmm.13809.
3. Mild hypoxia and human bone marrow mesenchymal stem cells synergistically enhance expansion and homing capacity of human cord blood CD34+ stem cells. Mohammadali F, Abroun S, Atashi A. *Iran J Basic Med Sci*. 2018 Jul;21(7):709-716. doi: 10.22038/IJBMS.2018.26820.6561.