Cytokines

Human Recombinant TPO

Thrombopoietin

Catalog #	78070.1	10 µg
	78070	100 µg
	78070.2	1000 µg

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Product Description

Thrombopoietin (TPO) is a key regulator of megakaryocytopoiesis and thrombopoiesis in vitro and in vivo. TPO stimulates the proliferation and maturation of megakaryocytes and has an important role in regulating the level of circulating platelets in vivo (de Sauvage et al.; Bartley et al.; Foster et al.; Sohma et al.). TPO also promotes the survival, self-renewal, and expansion of hematopoietic stem cells and primitive multi-lineage progenitor cells and is commonly used with other cytokines such as stem cell factor and Flt3-Ligand to promote expansion of primitive hematopoietic cells in culture (Hitchcock & Kaushansky). TPO is a ligand for the cytokine receptor Mpl, which is expressed at all stages of megakaryopoiesis from hematopoietic stem and progenitor cells to mature platelets.

Product Information

Alternative Names:	c-MPL ligand, Megakaryocyte colony-stimulating factor, MGDF
Accession Number:	P40225
Amino Acid Sequence:	MSPAPPACDL RVLSKLLRDS HVLHSRLSQC PEVHPLPTPV LLPAVDFSLG EWKTQMEETK AQDILGAVTL LLEGVMAARG QLGPTCLSSL LGQLSGQVRL LLGALQSLLG TQLPPQGRTT AHKDPNAIFL SFQHLLRGKV RFLMLVGGST LCVRRAPPTT AVPSRTSLVL TLNEL
Predicted Molecular Mass:	18.8 kDa
Species:	Human
Cross Reactivity:	Mouse, Rat, Monkey
Formulation:	Lyophilized from a sterile filtered aqueous solution containing sodium phosphate and sodium chloride, pH 7.5.
Source:	E. coli

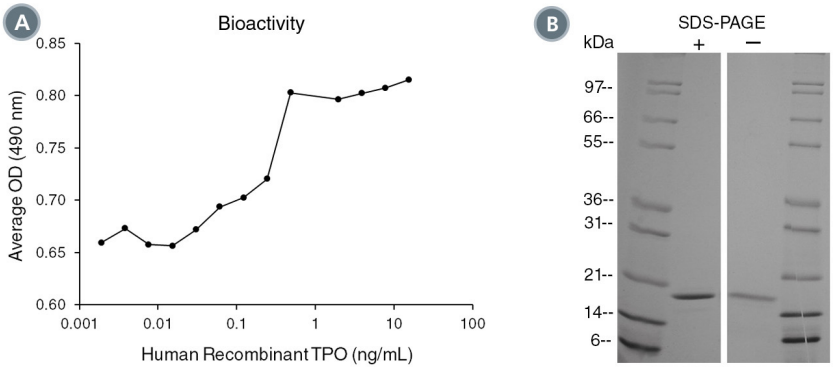
Specifications

Activity:	The specific activity is ≥ 2 x 10^5 units/mg (EC50 ≤ 5 ng/mL) as determined by a cell proliferation assay using MO7e cells.
Purity:	≥ 95%
Endotoxin Level:	Measured by kinetic limulus amebocyte lysate (LAL) analysis and is ≤ 1 EU/µg protein.

Preparation and Storage

Storage:	Store at -20°C to -80°C.
Stability:	Stable as supplied for 12 months from date of receipt.
Preparation:	Centrifuge vial before opening. Resuspend the product in sterile water containing 0.1% bovine serum albumin (BSA) to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Store at 2 - 8°C for up to 1 month or at -20°C to -80°C for up to 3 months. Avoid repeated freeze-thaw cycles. NOTE: If reconstituted product will be used immediately BSA is not required.

Data



(A) The biological activity of Human Recombinant TPO was tested by its ability to promote the proliferation of MO7e cells growing in the absence of IL-3. Cell proliferation was measured after 66 hours of culture using a fluorometric assay method. The EC50 is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC50 in the above example is 0.28 ng/mL.
(B) 1 µg of Human Recombinant TPO was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant TPO has a predicted molecular mass of 18.8 kDa.

Related Products

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References

Bartley TD et al. (1994) Identification and cloning of a megakaryocyte growth and development factor that is a ligand for the cytokine receptor Mpl. Cell 77(7): 1117–24.
Foster DC et al. (1994) Human thrombopoietin: gene structure, cDNA sequence, expression, and chromosomal localization. Proc Natl Acad Sci U S A 91(26): 13023–7.
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de Sauvage FJ et al. (1994) Stimulation of megakaryocytopoiesis and thrombopoiesis by the c-Mpl ligand. Nature 369(6481): 533–8.
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