

# Cytokines

## Human Recombinant TPO



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### Thrombopoietin

Catalog #	78210	25 µg
	78210.1	100 µg
	78210.2	1000 µg

## 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 (Bartley et al.; de Sauvage et al.; Foster et al.; Sohma et al.). TPO also promotes the survival, self-renewal, and expansion of hematopoietic stem cells and primitive multilineage progenitor cells. It is commonly used with other cytokines such as stem cell factor (SCF) and Flt3/Flk-2 ligand to promote expansion of primitive hematopoietic cells in culture (Hitchcock & Kaushansky). The TPO receptor, c-Mpl, is expressed at all stages of megakaryopoiesis, from hematopoietic stem and progenitor cells to mature platelets (Ng et al.).

## Product Information

Alternative Names:	c-MPL ligand, Megakaryocyte colony-stimulating factor, MGDF, MKCSF, ML, M PLLG, THCYT1, THPO
Accession Number:	P40225
Amino Acid Sequence:	SPAPPACDLR VLSKLLRDSH VLHSRLSQCP EVHPLPTPV LPAVDFSLGE WKTQMEETKA QDILGAVTLL LEGVMAARGQ LGPTCLSSLL GQLSGQVRL L GALQSLLGT QLPPQGRRTA HKDPNAIFLS FQHLLRGKVR FLMLVGGSTL CVRRAPPTTA VPSRTSLVLT LNELPNRTSG LLETNFTASA RTTGSGLLKW QQGFRKIPG LLNQTSRSLD QIPGYLNRIH ELLNGTRGLF PGPSRRLTGA PDISSGTSDT GSLPPNLQPG YSPSPHTPPT GQYTLFPLPP TLPTPVQLH PLLPDPSAPT PTPTSPLLNT SYTHSQNLSQ EGHHHHHH
Predicted Molecular Mass:	36.3 kDa
Species:	Human
Cross Reactivity:	Mouse, Rat, Monkey
Formulation:	Lyophilized from a sterile-filtered solution containing sodium phosphate and L-arginine, pH 7.5.
Source:	CHO

## Specifications

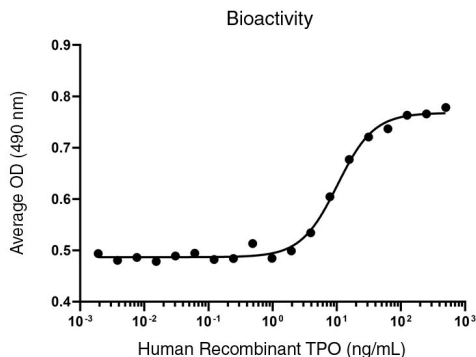
Activity:	The specific activity is $\geq 6.7 \times 10^4$ units/mg ( $EC_{50} \leq 15$ ng/mL) as determined by a cell proliferation assay using MO7e cells.
Purity:	$\geq 90\%$
Endotoxin Level:	Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is $\leq 1$ EU/µg protein.

## 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. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex.

OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 month or at -20°C to -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

## Data



The biological activity of Human Recombinant TPO was tested by its ability to promote the proliferation of MO7e cells. Cell proliferation was measured 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 10.2 ng/mL.

## Related Products

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## References

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- Foster DC et al. (1994) Human thrombopoietin: gene structure, cDNA sequence, expression, and chromosomal localization. *Proc Natl Acad Sci USA* 91(26): 13023–7.
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- Ng AP et al. (2014) Mpl expression on megakaryocytes and platelets is dispensable for thrombopoiesis but essential to prevent myeloproliferation. *Proc Natl Acad Sci USA* 111(16): 5884–9.
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