# TPO, Human, Recombinant

**Thrombopoietin**

| | |
|---|---|
| Catalog #02522 | 5 µg |
| #02822 | 25 µg |
| #02922 | 4 x 25 µg |

STEMCELL™ TECHNOLOGIES
Scientists Helping Scientists™ | WWW.STEMCELL.COM
TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713
INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM
FOR GLOBAL CONTACT DETAILS VISIT OUR WEBSITE

## Product Description

Thrombopoietin (TPO) is a key regulator of megakaryopoiesis 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.

| | |
|---|---|
| Alternate Names: | c-MPL ligand, Megakaryocyte colony-stimulating factor, MGDF |
| Accession Number: | P40225 |
| Predicted Molecular Mass: | 35 kDa |
| Species: | Human |
| Cross Reactivity: | Mouse, Rat, Monkey |
| Formulation: | Lyophilized from a sterile-filtered solution in acetonitrile and trifluoroacetic acid containing bovine serum albumin (BSA) as a carrier protein. |
| Source: | The DNA sequence was expressed in *Spodoptera frugiperda*, *Sf* 21 insect cells. |

## Specifications

| | |
|---|---|
| Activity: | The specific activity typically ranges from 0.33 - 3.3 x 10^6 units/mg ($EC_{50}$ 0.3 - 3 ng/mL) as determined by a cell proliferation assay using MO7e cells. |
| Purity: | > 97% as determined by SDS-PAGE and visualized by silver stain. |
| Endotoxin Level: | Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is < 1.0 EU/µg protein. |

## Preparation and Storage

| | |
|---|---|
| Storage: | Store at -20°C to -70°C. |
| Stability: | Stable as supplied for up to 12 months from date of receipt. |
| Reconstitution: | Centrifuge vial before opening. Resuspend the product in sterile 4 mM hydrochloric acid containing at least 0.1% BSA or human serum albumin (HSA) to at least 50 µg/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 -70°C for up to 3 months. Avoid repeated freeze-thaw cycles. |

## Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

## 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.

Hitchcock IS & Kaushansky K. (2014) Thrombopoietin from beginning to end. Br J Haematol 165(2): 259–68.

de Sauvage FJ et al. (1994) Stimulation of megakaryocytopoiesis and thrombopoiesis by the c-Mpl ligand. Nature 369(6481): 533–8.

Sohma Y et al. (1994) Molecular cloning and chromosomal localization of the human thrombopoietin gene. FEBS Lett 353(1): 57–61.