

## TPO

### Thrombopoietin, Megakaryocyte colony stimulating factor mouse, recombinant, *E. coli*

Cat. No.	Amount
PR-688	10 $\mu$ g

For *in vitro* use only  
Quality guaranteed for 12 months  
Store at -20°C

#### Avoid freeze / thaw cycles

#### Form

Lyophilized.

#### Solubility

It is recommended to reconstitute the lyophilized TPO in sterile bidest H<sub>2</sub>O not less than 100  $\mu$ g/ml. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

#### Activity

ED<sub>50</sub>: 0.05-0.015 ng/ml determined by the dose dependent proliferation of MO7e cells.  
The optimal concentration for each specific application should be determined by an initial dose-response assay.

#### Molecular Weight

17 kDa

#### Purity

≥ 95% by SDS-PAGE

#### Description

Thrombopoietin (TPO) and the TPO receptor (Mpl) are the key regulators of platelet mass and are required for both stem cell proliferation and for the terminal differentiation of platelets.

TPO may be a potent regulator of ovarian function (e.g. proliferation, apoptosis and the secretion of peptide hormones, steroids, growth factors and growth factor-binding protein, as well as of the expression of some intracellular messengers). Furthermore the importance of PKA in controlling these functions and in mediating the effects of TPO on ovarian cells was demonstrated.

Thrombopoietin Mouse Recombinant produced in *E. coli* is a single, non-glycosylated soluble polypeptide chain containing 174 amino acids and having a molecular mass of 17kDa.

The TPO is purified by proprietary chromatographic techniques.

#### Amino acid sequence

The sequence of the first five N-terminal amino acids was determined and was found to be Ser-Pro-Val-Ala-Pro.

#### Selected References:

- Moliterno *et al.* (2004) Mpl Baltimore: a thrombopoietin receptor polymorphism associated with thrombocytosis. *Proc. Natl. Acad. Sci. USA.* **101**:11444.
- Orita *et al.* (2005) A novel therapeutic approach for thrombocytopenia by minibody agonist of the thrombopoietin receptor. *Blood.* **105**:562.
- Kirito *et al.* (2004) Thrombopoietin induces HOXA9 nuclear transport in immature hematopoietic cells: potential mechanism by which the hormone favorably affects hematopoietic stem cells. *Mol. Cell. Biol.* **24**:6751.
- Antonchuk *et al.* (2004) Synergistic effects on erythropoiesis, thrombopoiesis, and stem cell competitiveness in mice deficient in thrombopoietin and steel factor receptors. *Blood.* **104**:1306.
- Rouleau *et al.* (2004) A functional erythropoietin receptor is necessary for the action of thrombopoietin on erythroid cells lacking c-mpl. *Exp. Hematol.* **32**:140.
- Carpinelli *et al.* (2004) Suppressor screen in Mpl<sup>-/-</sup> mice: c-Myb mutation causes supraphysiological production of platelets in the absence of thrombopoietin signaling. *Proc. Natl. Acad. Sci. USA* **101**:6553.
- Bradley *et al.* (2004) Hematopoietic-repopulating defects from STAT5-deficient bone marrow are not fully accounted for by loss of thrombopoietin responsiveness. *Blood.* **103**:2965.