

Revision 2

 Store at -20C
 #86116

Human TPO Recombinant Protein (mammalian derived)

25 µg



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MW (kDa):
36

UniProt ID:
P40225

Entrez-Gene Id:
7066

Background

Thrombopoietin (TPO) is a 332-amino acid glycoprotein produced by the liver, kidney, marrow stroma, and several other tissues (1). This cytokine is responsible for the regulation of platelet production and promotes both the proliferation of megakaryocyte progenitors and their maturation into platelet-producing megakaryocytes by binding to the thrombopoietin receptor (TPOR, c-Mpl) (2-5). The concentration of TPO in the bloodstream is regulated by the TPOR on platelets and megakaryocytes (6). Binding of TPO to the TPOR induces receptor dimerization that leads to phosphorylation and activation of the tyrosine kinase Jak2 (7). Studies have suggested that TPO may be a useful cytokine for the prevention and treatment of thrombocytopenia in cancer patients and for developing new strategies to therapeutically intervene in hematopoiesis (1,5).

Endotoxin

Endotoxin levels are less than or equal to 1 EU / 1 µg hTPO.

Purity

A greater than or equal to 90% purity was determined by SDS-PAGE.

Source / Purification

Recombinant human TPO was expressed in genetically modified CHO cells and is supplied in a lyophilized form.

Bioactivity

The bioactivity of recombinant hTPO was determined in an M-07e cell proliferation assay. The ED₅₀ of each lot is less than or equal to 15 ng/ml.

Storage

Human TPO Recombinant Protein (mammalian derived) is supplied as lyophilized material that is very stable at -20°C. It is recommended to reconstitute with sterile water at a concentration of 0.1 mg/ml which can be further diluted in aqueous solutions as needed. Addition of a carrier protein (0.1% HSA or BSA) is recommended for long-term storage.

Background References

1. Kaushansky, K. (2003) *J Thromb Haemost* 1, 1587-92.
2. Lok, S. et al. (1994) *Nature* 369, 565-8.
3. Kaushansky, K. et al. (1994) *Nature* 369, 568-71.
4. Wendling, F. et al. (1994) *Nature* 369, 571-4.
5. Prow, D. and Vadhan-Raj, S. (1998) *Oncology (Williston Park)* 12, 1597-604, 1607-8; discussion 1611-4.
6. Kato, T. et al. (1998) *Stem Cells* 16, 322-8.
7. Gurney, A.L. and de Sauvage, F.J. (1996) *Stem Cells* 14 Suppl 1, 116-23.

APPLICATIONS KEY

CROSS-REACTIVITY KEY H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus Mi: mink C: chicken Dm: D. melanogaster X: Xenopus Z: zebrafish B: bovine Dg: dog Pg: pig Sc: S. cerevisiae Ce: C. elegans Hr:

hspc: Baby rabbit All: all species expected

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