DATASHEET
Version 2016-08-02

TPO, Human

Cat. No.: Z02720-1

Size: 1 mg

Synonyms: Thrombopoietin (TPO), Human;

Description:

Thrombopoietin (TPO), the ligand for the receptor encoded by the c-Mpl proto-oncogene, is a key regulator of megakaryocytopoiesis and thrombopoiesis in vitro and in vivo. The cDNAs for Tpo have recently been cloned from canine, mouse and human sources. The proteins from these three species are highly conserved, exhibiting from 69-75% sequence identity at the amino acid level. Human Tpo cDNA encodes a 353 amino acid residue protein with a 21 amino acid residue signal peptide that is cleaved to yield the 332 amino acid residue mature protein. Two distinct domains, separated by a pair of arginine residues that may be a proteolytic cleavage site, have been identified in Tpo: the amino terminal region exhibiting sequence homology to erythropoietin and the carboxy terminal region containing multiple potential N-linked glycosylation sites. Recombinant Tpo has now been shown to stimulate the maturation, as well as the proliferation, of megakaryocytes and may have important therapeutic applications for the treatment of various clinical conditions associated with thrombocytopenia.

Amino Acid Sequence:

SPAPPACDLR VLSKLLRDSH VLHSRLSQCP EVHPLPTPVL LPAVDFSLGE WKTQMEETKA QDILGAVTLL LEGVMAARGQ LGPTCLSSLL GQLSGQVRLL LGALQSLLGT QLPPQGRTTA HKDPNAIFLS FQHLLRGKVR FLMLVGGSTL CVRRAPPTTA VPSRTSLVLT LNELPNRTSG LLETNFTASA RTTGSGLLKW QQGFRAKIPG LLNQTSRSLD QIPGYLNRIH ELLNGTRGLF PGPSRRTLGA PDISSGTSDT GSLPPNLQPG YSPSPTHPPT GQYTLFPLPP TLPTPVVQLH PLLPDPSAPT PTPTSPLLNT SYTHSQNLSQ EG

Source: *CHO*

Species: Human

Biological Activity: Fully biologically active when compared to standard. The ED_{50} as determined by a cell proliferation assay using human Mo7e cells is less than 3 ng/ml, corresponding to a specific activity of > 3.3×10^5 IU/mg.

Molecular Weight: Approximately 80 kDa, consisting of a 332 amino acid residue with a predicted molecular mass of approximately 35 kDa. As a result of glycosylation, the recombinant protein migrates with an apparent molecular mass of 80B110 kDa in SDS-PAGE.

Physical Appearance: Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.2 μm filtered concentrated solution in PBS, pH 7.4.

Reconstitution: We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions.

Purity: > 98 % by SDS-PAGE and HPLC analyses.

Endotoxin Level: Less than 1 EU/μg of rHuTPO a as determined by LAL method.

Storage: This lyophilized preparation is stable at 2-8 °C, but should be kept at -20 °C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8 °C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20 °C to -70 °C. **Avoid repeated freeze/thaw cycles.**

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