



## User Manual

**Thrombopoietin (TPO) (Human)**

**Cat. No. HCOPP-20053**

**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, murine and human sources. The proteins from these three species are highly conserved, exhibiting from 69-75% sequence identity at the amino acid level. 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.

**Source:**

CHO

**Unit:**

1 mg

**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.

**Formulation:**

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

**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.

### **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 80±10 kDa in SDS-PAGE.

### **Endotoxin:**

Less than 1 EU/μg of TPO a as determined by LAL method.

### **Usage:**

This material is offered by Cyagen Biosciences for research, laboratory or further evaluation purposes. FOR RESEARCH USE ONLY. NOT INTENDED FOR ANY ANIMAL OR HUMAN THERAP EUTIC OR DIAGNOSTIC USE.

### **Biological Activity:**

The ED50 determined by a cell proliferation assay using human Mo7e cells is less than 3 ng/mL, corresponding to a specific activity of  $> 3.3 \times 10^5$  IU/mg.

### **Physical Appearance:**

Sterile filtered white lyophilized (freeze-dried) powder.

### **AA Sequence:**

SPAPPACDLR VLSKLLRDSH VLHSRLSQCP EVHPLPTPVL LPAVDFSLGE  
WKTQMEETKA QDILGAVTLL LEGVMAARGQ LGPTCLSSLL GQLSGQVRL  
LGALQSLGTL QLPPQGRRTA HKDPNAIFLS FQHLLRGKVR FLMLVGGSTL  
CVRRAPPTTA VPSRTSLVLT LNELPNRTSG LLETNFTASA RTTGSGLLKW  
QQGFRAKIPG LLNQTSRSLD QIPGYLNRIH ELLNGTRGLF PGPSRRTLGA  
PDISSGTSMT GSLPPNLQPG YSPSPHPPT GQYTLFPLPP TLPTPVVQLH  
PLLPDPSAPT PTPTSPLLNT SYTHSQNLSQ EG

### **Purity:**

> 98% by SDS-PAGE and HPLC analyses.

Material Safety Data Sheets (MSDSs) are available upon request.

The Certificate of Analysis (COA), which provides detailed quality control information for each product, is also available at the Cyagen website.

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