# Human Thrombopoietin / TPO Protein, premium grade

Catalog # THN-H5216

## Synonym

THPO,MGC163194,MGDF,MKCSF,ML,MPLLG,TPO,THCYT1

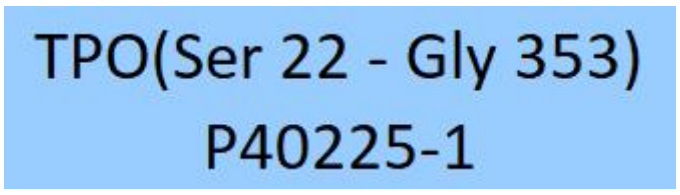
## Source

Human Thrombopoietin Protein, premium grade(THN-H5216) is expressed from human 293 cells (HEK293). It contains AA Ser 22 - Gly 353 (Accession # P40225-1).

Predicted N-terminus: Ser 22

***It is produced under our rigorous quality control system that incorporates a comprehensive set of tests including sterility and endotoxin tests. Product performance is carefully validated and tested for compatibility for cell culture use or any other applications in the early preclinical stage. When ready to transition into later clinical phases, we also offer a custom GMP protein service that tailors to your needs. We will work with you to customize and develop a GMP-grade product in accordance with your requests that also meets the requirements for raw and ancillary materials use in cell manufacturing of cell-based therapies.***

## Molecular Characterization




This protein carries no "tag".

The protein has a calculated MW of 35.5 kDa. The protein migrates as 75 kDa±5 kDa when calibrated against Star Ribbon Pre-stained Protein Marker under reducing (R) condition (SDS-PAGE) due to glycosylation.

## Endotoxin

Less than 0.01 EU per μg by the LAL method.

## Host Cell Protein

<0.5 ng/μg of protein tested by ELISA.

## Host Cell DNA

<0.02 ng/μg of protein tested by qPCR.

## Sterility

Negative

## Mycoplasma

Negative.

## Purity

>95% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

## Formulation

Lyophilized from 0.22 μm filtered solution in 20 mM NaAc-HAc, pH5.0 with trehalose as protectant.

Contact us for customized product form or formulation.

## Reconstitution

Please see Certificate of Analysis for specific instructions.

***For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.***

## Storage

For long term storage, the product should be stored at lyophilized state at -20°C or lower.

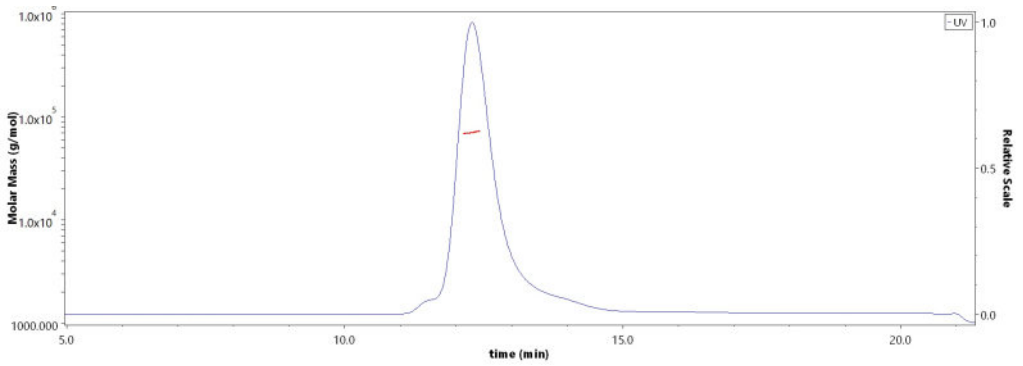
***Please avoid repeated freeze-thaw cycles.***

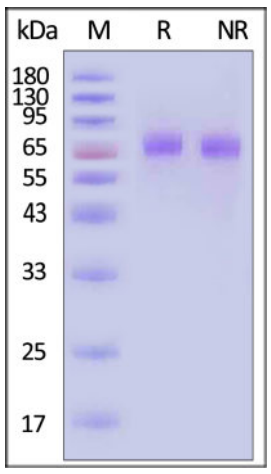
This product is stable after storage at:

- -20°C to -70°C for 24 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

## SDS-PAGE

## SEC-MALS

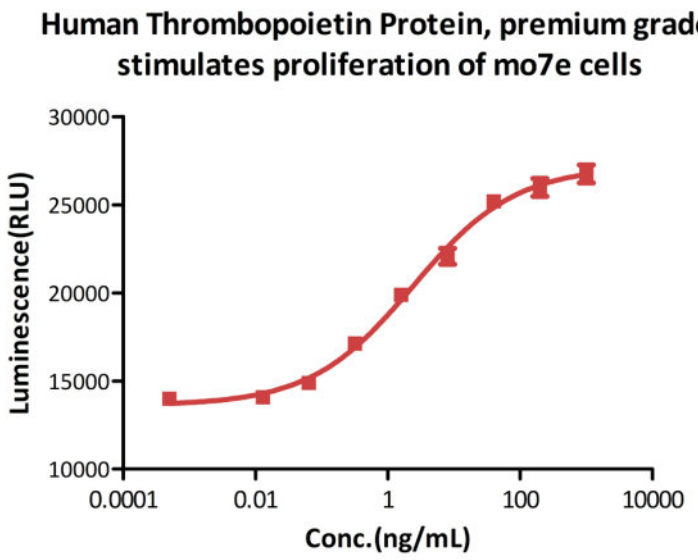





Human Thrombopoietin Protein, premium grade on SDS-PAGE under reducing (R) and non-reducing (NR) conditions. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With Star Ribbon Pre-stained Protein Marker).

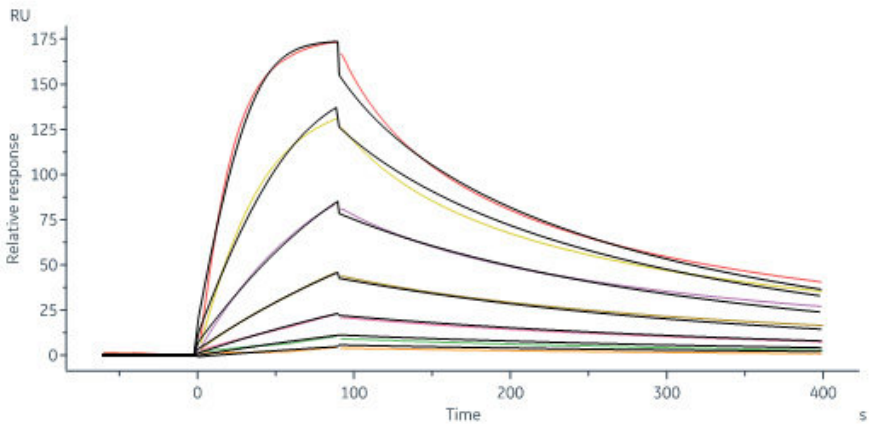
The purity of Human Thrombopoietin Protein, premium grade (Cat. No. THN-H5216) is more than 90% and the molecular weight of this protein is around 65-85 kDa verified by SEC-MALS.
Report

## Bioactivity-Bioactivity CELL BASE



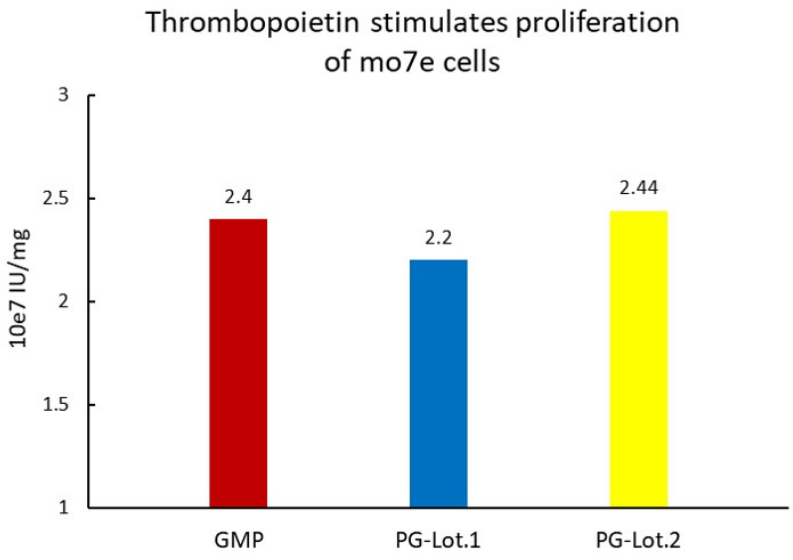

Human Thrombopoietin Protein, premium grade (Cat. No. THN-H5216) stimulates proliferation of Mo7e cells. The specific activity of Human Thrombopoietin Protein, premium grade is > 1.00x10^7 IU/mg, which is calibrated against human TPO Standard (NIBSC code: 03/124) (QC tested).

## Bioactivity-SPR




Human Thrombopoietin R, His Tag (Cat. No. THR-H52H7) captured on CM5 chip via anti-His antibody can bind Human Thrombopoietin Protein, premium grade (Cat. No. THN-H5216) with an affinity constant of 2.96 nM as determined in a SPR assay (Biacore 8K) (Routinely tested).

## Bioactivity-Stability




The Cell based assay shows batch-to-batch consistency between Acro's GMP and PG Thrombopoietin.

## Background

Thrombopoietin (TPO) is a 332 amino acid glycoprotein made primarily in the liver and act as the major physiological regulator of platelet production. TPO binds the TPO receptor, activates JAK and STAT pathways, thus stimulating megakaryocyte growth and platelet production. Additionally, further investigation uncovered that thrombopoietin is a critical cytokine promoting hematopoietic rebound after myeloablation and its transcripts are expressed by multiple cellular sources.

## Clinical and Translational Updates