

PRODUCT DESCRIPTION

Thrombopoietin (TPO) is a key regulator of megakaryocytopoiesis and thrombopoiesis *in vitro* and *in vivo*. TPO stimulates the proliferation and maturation of megakaryocytes, and has also been shown to promote the survival, self-renewal and expansion of hematopoietic stem cells and primitive multilineage progenitors.

Recombinant human TPO contains 332 amino acid residues and has a predicted molecular mass of approximately 35 kDa. As a result of glycosylation, the recombinant protein migrates with an apparent molecular mass of 47 kDa in SDS-PAGE.

SOURCE

A DNA sequence encoding the mature human TPO protein sequence (Ser 22 - Gly 353; Accession #P40225)¹ was expressed in Sf21 insect cells.

PURITY

Purity is greater than 97%, as determined by SDS-PAGE and visualized by silver stain. Endotoxin level is <1.0 EU per 1 µg cytokine, as determined by the LAL method.

ACTIVITY

The biological activity of recombinant human TPO is measured in a cell proliferation assay using MO7e cells.² The ED₅₀ for this effect is typically 0.3 - 3 ng/mL.

FORMULATION

Recombinant human TPO is lyophilized from a 0.2 µm filtered solution in 35% acetonitrile, 0.1% trifluoroacetic acid containing 50 µg bovine serum albumin per 1 µg cytokine.

RECONSTITUTION

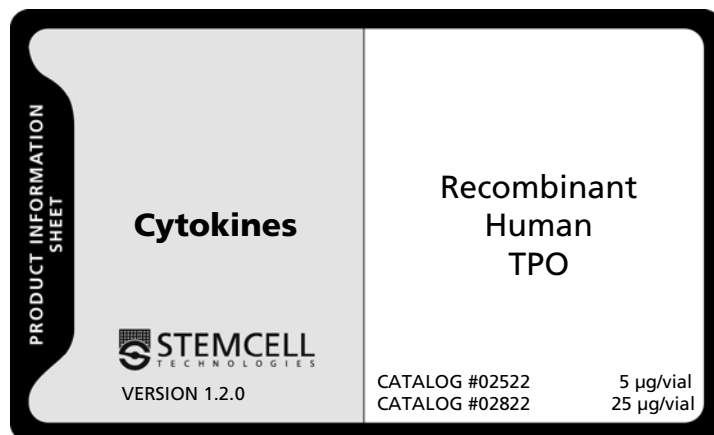
Reconstitute human TPO at 50 µg/mL with sterile phosphate buffered saline (PBS) containing at least 0.1% human or bovine serum albumin.

STABILITY AND STORAGE

Lyophilized human TPO is stable for up to twelve months from date of receipt at -20°C to -70°C.

Reconstituted human TPO can be stored under sterile conditions at 2°C - 8°C for one month, or at -20°C to -70°C (in a manual defrost freezer) for three months without detectable loss of activity.

Avoid repeated freezing and thawing.



REFERENCES

1. Foster DC, Sprecher CA, Grant FJ, Kramer JM, Kuijper JL, Holly RD, Whitmore TE, Heipel MD, Bell LA, Ching AFT, *et al.*: Human thrombopoietin: Gene structure, cDNA sequence, expression, and chromosomal localization. Proc Natl Acad Sci USA 91: 13023-13027, 1994
2. Avanzi GC, Lista P, Giovinzano B, Miniero R, Saglio G, Benetton G, Coda R, Cattoretti G, Pegoraro L: Selective growth response to IL-3 of a human leukaemic cell line with megakaryoblastic features. Br J Haematol 69: 359-366, 1988