

DESCRIPTION

Source *E. coli*-derived human Thrombopoietin/Tpo protein
Ser22-Leu195
Accession # NP_000451.1

N-terminal Sequence Analysis Ala-Ser22

Predicted Molecular Mass 19 kDa

SPECIFICATIONS

SDS-PAGE 18-19 kDa, under reducing conditions.

Activity Measured in a cell proliferation assay using MO7e human megakaryocytic leukemic cells. Avanzi, G. *et al.* (1988) *Br. J. Haematol.* **69**:359. The ED₅₀ for this effect is 0.0500-0.500 ng/mL.

Endotoxin Level <0.10 EU per 1 µg of the protein by the LAL method.

Purity >95%, by SDS-PAGE with quantitative densitometry by Coomassie® Blue Staining.

Formulation Lyophilized from a 0.2 µm filtered solution in Acetonitrile and TFA with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute the 10 µg size at 100 µg/mL in water. Reconstitute all other sizes at 500 µg/mL in water.

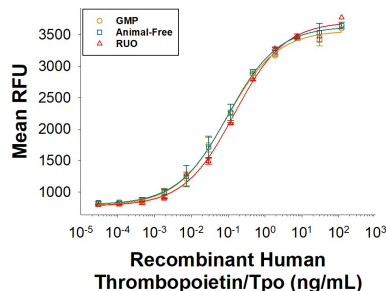
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

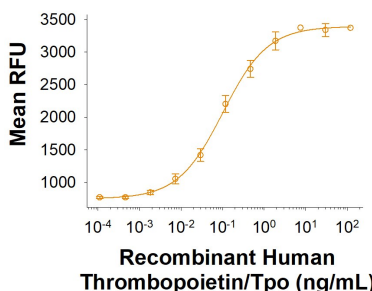
DATA

Bioactivity



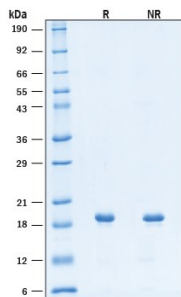
Equivalent Bioactivity of GMP, Animal-Free, and RUO grades of Recombinant Human Thrombopoietin/Tpo proteins. Equivalent bioactivity of GMP (Catalog # BT-TPO-GMP), Animal-Free (Catalog # BT-TPO-AFL) and RUO (Catalog # BT-TPO) grades of Recombinant Human Thrombopoietin/Tpo proteins as measured in a cell proliferation assay using MO7e human megakaryocytic leukemic cells (orange, green, red, respectively).

Bioactivity



Recombinant Human Thrombopoietin/Tpo Protein Bioactivity. Recombinant Human Thrombopoietin/Tpo (Catalog # BT-TPO) stimulates proliferation in the MO7e human megakaryocytic leukemic cell line. The ED₅₀ for this effect is 0.0500-0.500 ng/mL.

SDS-PAGE



Recombinant Human Thrombopoietin/Tpo Protein SDS-PAGE. 2 µg/lane of Recombinant Human Thrombopoietin/Tpo Protein (Catalog # BT-TPO) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 18-19 kDa, under reducing conditions.

BACKGROUND

Thrombopoietin (TPO) is a crucial regulator of hematopoietic stem cell (HSC) differentiation, maturation, and proliferation, as well as megakaryocytopoiesis and thrombopoiesis. TPO is often used in conjunction with Stem Cell Factor (SCF) and Flt-3 ligand in cell culture protocols to expand HSCs for bone marrow transplantation and cellular therapies. When combined with SCF and Flt-3 ligand, it promotes the differentiation of HSCs into megakaryocytes, leading to the production of platelets. It has shown promise in emerging cellular therapies for treating sickle cell disease, beta thalassemia, and other blood-related disorders. Moreover, TPO in combination with other cytokines is utilized in the generation of iNK cells, which have the potential to be incorporated into cellular immunotherapies.