SANTA CRUZ BIOTECHNOLOGY, INC.

TPO (D-19): sc-1300

BACKGROUND

Thrombopoietin (TPO or THPO), also known as c-Mpl ligand (c-Mpl L), is a cytokine that plays a central role in megakaryopoiesis by influencing the development and maturation of megakaryocytes and platelet production. TPO is expressed by both mature and progenitor megakaryocytes, as well as by human platelets. Human TPO cDNA encodes a 332 amino acid precursor with a 21 amino acid signal peptide which is cleaved to generate the mature protein. TPO isolated from serum ranges in molecular weight, which suggests that the protein is highly glycosylated. TPO exerts its biological effects through the TPO receptor, c-Mpl. Stimulation of c-Mpl with TPO results in the activation of the Janus tyrosine kinase family members, Tyk 2 and JAK2 which in turn phosphorylate Stat5 and Stat3, causing their nuclear translocation and the transcription of Stat responsive genes. The gene encoding TPO maps to human chromosome 3q26.3-q27.

REFERENCES

1. Foster, D.C., et al. 1994. Human thrombopoietin: gene structure, cDNA sequence, expression, and chromosomal localization. Proc. Nat. Acad. Sci. USA 91: 13023-13027.
2. Dorsch, M., et al. 1995. TPO and IL-3 induce overlapping but distinct protein tyrosine phosphorylation in a myeloid precursor cell line. Biochem. Biophys. Res. Comm. 214: 424-431.
3. Chen, J., et al. 1995. Regulation of platelet activation *in vitro* by the c-Mpl ligand, thrombopoietin. Blood 86: 4054-4062.
4. Kaushansky, K. 1995. Thrombopoietin: the primary regulator of platelet production. Blood 86: 419-431.
5. Sasaki, K., et al. 1995. TPO/c-mpl ligand induces tyrosine phosphorylation of multiple cellular proteins including proto-oncogene products, Vav and c-Cbl, and Ras signaling molecules. Biochem. Biophys. Res. Comm. 216: 338-347.

CHROMOSOMAL LOCATION

Genetic locus: THPO (human) mapping to 3q27; Thpo (mouse) mapping to 16 A3.

SOURCE

TPO (D-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of TPO of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1300 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

TPO (D-19) is recommended for detection of precursor and mature TPO of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

TPO (D-19) is also recommended for detection of precursor and mature TPO in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for TPO siRNA (m): sc-39808, TPO shRNA Plasmid (m): sc-39808-SH and TPO shRNA (m) Lentiviral Particles: sc-39808-V.

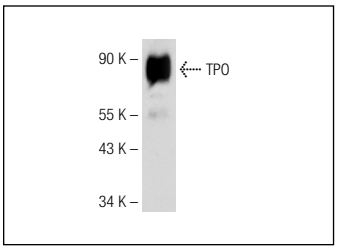
Molecular Weight of TPO: 70 kDa.

Positive Controls: rat testis extract: sc-2400.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



TPO (D-19): sc-1300. Western blot analysis of mouse recombinant TPO.

RESEARCH USE

For research use only, not for use in diagnostic procedures.