DESCRIPTION
Species Reactivity Mouse/Rat
Specificity Detects mouse and rat Thrombopoietin/Tpo in direct ELISAs. Neutralizes the biological activity of recombinant mouse Thrombopoietin/Tpo. It will also neutralize the activity of recombinant human (rh) Thrombopoietin/Tpo, although 25 times the amount of Ig is required. In direct ELISAs less than 15% cross-reactivity with rhTpo is observed.
Source Polyclonal Goat IgG
Purification Antigen Affinity-purified
Immunogen Mouse myeloma cell line NS0-derived recombinant mouse Thrombopoietin/Tpo and S. frugiperda insect ovarian cell line Sf21-derived recombinant mouse Thrombopoietin/Tpo
Endotoxin Level <0.10 EU per 1 μg of the antibody by the LAL method.
Formulation Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.
*Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

APPLICATIONS
Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

Recommended Concentration Sample
Western Blot 0.1 μg/mL Recombinant Mouse Thrombopoietin/Tpo (Catalog # 488-TO)
Neutralization Measured by its ability to neutralize Thrombopoietin/Tpo-induced proliferation in the MO7e human megakaryocytic leukemic cell line. Avanzi, G. et al. (1988) Br. J. Haematol. 69:359. The Neutralization Dose (ND50) is typically 0.1-0.3 μg/mL in the presence of 3 ng/mL Recombinant Mouse Thrombopoietin/Tpo.

DATA
Neutralization
Cell Proliferation Induced by Thrombopoietin/Tpo and Neutralization by Mouse Thrombopoietin/Tpo Antibody. Recombinant Mouse Thrombopoietin/Tpo (Catalog # 488-TO) stimulates proliferation in the MO7e human megakaryocytic leukemic cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Mouse Thrombopoietin/Tpo (3 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Mouse/Rat Thrombopoietin/Tpo Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-488-NA). The ND50 is typically 0.1-0.3 μg/mL.

PREPARATION AND STORAGE
Reconstitution Reconstitute at 0.2 mg/mL in sterile PBS.
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.
- 6 months, -20 to -70 °C under sterile conditions after reconstitution.
**BACKGROUND**

Thrombopoietin (Tpo), is a key regulator of megakaryocytopoiesis and thrombopoiesis. It is principally produced in the liver and is bound and internalized by the receptor TpoR/c‐mpl. Defects in the Tpo−TpoR signaling pathway are associated with a variety of platelet disorders (1-3). The 356 amino acid (aa) mouse Tpo precursor is cleaved to yield the 335 aa mature protein. Mature mouse Tpo shares 71% and 81% aa sequence homology with human and rat Tpo, respectively. It is an 80-85 kDa protein that consists of an N-terminal domain with homology to Erythropoietin (Epo) and a C-terminal domain that contains multiple N-linked and O-linked glycosylation sites (4, 5). Tissue specific alternate splicing of mouse Tpo generates multiple isoforms with internal deletions, insertions, and/or C-terminal substitutions (6). Tpo promotes the differentiation, proliferation, and maturation of MK and their progenitors (4, 5, 7). Several other cytokines can promote these functions as well but only in cooperation with Tpo (8, 9). Notably, IL-3 independently induces MK development, although its effects are restricted to early in the MK lineage (8, 9). Tpo additionally promotes platelet production, aggregation, ECM adhesion, and activation (10-13). It is cleaved by platelet-derived thrombin following Arg191 within the C-terminal domain and subsequently at other sites upon extended digestion (14). Full length Tpo and shorter forms circulate in the plasma (4, 5). The C-terminal domain is not required for binding to TpoR or inducing MK growth and differentiation (5). Aside from its hematopoietic effects, Tpo is expressed in the brain where it promotes the apoptosis of hypoxia-sensitized neurons and inhibits neuronal differentiation by blocking NGF-induced signaling (15, 16).

**References:**