

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Thrombopoietin R/Tpo R in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 1% cross-reactivity with recombinant human Epo R is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Thrombopoietin R/Tpo R Gln26-Tyr423 Accession # P40238
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.

Neutralization	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

Thrombopoietin receptor (Tpo R), also known as myeloproliferative leukemia protein (c-mpl), is a 95 kDa type I transmembrane protein that is a member of the type I cytokine receptor family within the hematopoietin/cytokine receptor superfamily (1-4). The 635 amino acid (aa) full-length human Tpo R contains a 25 aa signal sequence, a 466 aa extracellular domain with a ligand binding domain and two fibronectin type III domains, a transmembrane (TM) domain and a cytoplasmic domain. The extracellular domain of human Tpo R shares 78%, 76%, 81%, 82% and 80% aa identity with mouse, rat, bovine, canine and equine Tpo R, respectively. Humans produce three distinct mRNA species; a P-form, a K-form, and a truncated form (Mpl-tr) lacking a TM domain (3-7). The P-form encodes the full-length receptor. The Mpl-tr form, which is expressed in both human and mouse, is intracellular and targets the P-form for degradation (5, 6). The 579 aa K-form has an alternate cytoplasmic domain, but does not dimerize with, or inhibit, the P-form (7). Thrombopoietin (Tpo) is a key regulator of megakaryocytopoiesis, thrombopoiesis and hematopoietic stem cell self-renewal, as reflected by expression of the Tpo R on megakaryocytes, platelets and hematopoietic progenitors (2, 8). Receptor dimerization occurs upon Tpo binding and initiates signaling through the Ras/MAP and JAK/STAT pathways (1, 2). Internalization and degradation of Tpo following Tpo R binding serves to downregulate circulating Tpo (9). Tpo R expressed at low levels on endothelial cells does not appear to contribute to regulation of Tpo (10). Inactivating mutations of Tpo R cause thrombocytopenia, and absence of functional Tpo R is lethal in humans, but not mice. Other mutations, including an activating change in the TM domain, can cause thrombocytosis (11, 12).

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