

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Thrombospondin-1 in direct ELISAs.
Source	Recombinant Monoclonal Rat IgG _{2B} Clone # 899642R
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Thrombospondin-1 Asn19-Ser1171 Accession # P35441
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.

ELISA	This antibody functions as an ELISA capture antibody when paired with Rat Anti-Mouse Thrombospondin-1 Monoclonal Antibody (Catalog # MAB7859). <i>This product is intended for assay development on various assay platforms requiring antibody pairs.</i>
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PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 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

Thrombospondin-1 (TSP-1) is a 150-180 kDa calcium-sensitive protein that is secreted as a disulfide-linked homotrimer. Within the Thrombospondin family, TSP-2 is also homotrimeric, while TSP-3, -4, and -5/COMP are pentameric. TSP-1 regulates a wide range of cellular functions including their interactions with other cells and with the extracellular matrix (ECM). TSP-1 contains an N-terminal Laminin G-like globular domain, an extended central region with one vWF-C domain, 3 TSP type 1 repeats, 3 EGF-like domains, and 8 TSP type-3 repeats, and a globular C-terminal lectin domain. Distinct regions of TSP-1 have been associated with binding to particular ECM or cellular molecules (1, 2). Mature mouse TSP-1 shares 95% and 99% amino acid sequence identity with human and rat TSP-1, respectively. TSP-1 counteracts the angiogenic, hypotensive, and anti-thrombotic effects of nitric oxide (NO) (3). It binds and neutralizes VEGF, blocks VEGF R2 signaling on vascular endothelial cells (EC), and destabilizes adhesive contacts between EC (4-6). TSP-1's actions on vascular smooth muscle cells support arterial tone and blood pressure in the presence of vasodilatory stimulation (7). It is released from activated platelets and enhances platelet aggregation and adhesion (8). TSP-1 also plays an important role in wound repair and tissue fibrosis by binding latent TGF-beta and inducing release of the active cytokine from the latency associated peptide (LAP) (9, 10). TSP-1 dampens adaptive immune responses by inducing the differentiation of regulatory T cells and inhibiting TCR signaling (11, 12). In the nervous system, it promotes excitatory synapse formation (13, 14) and supports the integration of neural progenitor cells into the olfactory bulb (15). In addition, TSP-1 is released by apoptotic cells and promotes macrophage-mediated debris clearance (16).

References:

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