Human Thrombospondin-4 Antibody

Antigen Affinity-purified Polyclonal Goat IgG

Catalog Number: AF2390

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Thrombospondin-4 in direct ELISAs and Western blots. In direct ELISAs, approximately 50% cross-reactivity with recombinant mouse Thrombospondin-4 is observed and less than 5% cross-reactivity with recombinant human (rh) Thrombospondin-1, rhThrombospondin-2, and rhThrombospondin-3 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Thrombospondin-4 Ala22-Asn961 (Pro276Ala, Ala420Val) Accession # P35443
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.

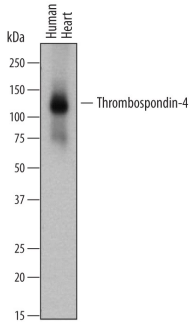
APPLICATIONS

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	0.2 µg/mL	See Below
Simple Western	2 µg/mL	See Below

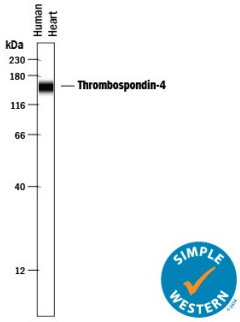
DATA

Western Blot



Detection of Human Thrombospondin-4 by Western Blot. Western blot shows lysates of human heart tissue. PVDF membrane was probed with 0.2 µg/mL of Goat Anti-Human Thrombospondin-4 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2390) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). A specific band was detected for Thrombospondin-4 at approximately 130kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Simple Western



Detection of Human Thrombospondin-4 by Simple Western™. Simple Western lane view shows lysates of human heart tissue, loaded at 0.2 mg/mL. A specific band was detected for Thrombospondin-4 at approximately 158 kDa (as indicated) using 2 µg/mL of Goat Anti-Human Thrombospondin-4 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2390) followed by 1:50 dilution of HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

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. *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.** ● 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.

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BACKGROUND

Thrombospondin-4 (THSP4) is a 140 kDa calcium-binding protein that interacts with other extracellular matrix molecules and modulates the activity of various cell types. THSP1 and THSP2 constitute subgroup A and form disulfide-linked homotrimers, whereas THSP3, THSP4, and THSP5/COMP constitute subgroup B and form pentamers (1, 2). The human THSP4 cDNA encodes a 961 amino acid (aa) precursor that includes a 26 aa signal sequence followed by an N-terminal heparin-binding domain, a coiled-coil motif, four EGF-like repeats, seven THSP type-3 repeats (one with an RGD motif), and a THSP C-terminal domain (3). Human THSP4 shares 93% aa sequence identity with mouse and rat THSP4. Within the THSP type-3 repeats and the THSP C-terminal domain, human THSP4 shares 79% aa sequence identity with THSP3 and COMP, and 58% aa sequence identity with THSP1 and THSP2. The coiled-coil motif mediates pentamer formation with COMP, either homotypically or heterotypically (3-6). THSP4 binds a variety of matrix proteins including collagens I, II, III, V, laminin-1, fibronectin, and matrilin-2 (4). Interactions of THSP4 with non-collagenous proteins are independent of divalent cations, while interactions with collagenous proteins are enhanced in the presence of zinc (4). THSP4 is expressed in heart, skeletal muscle, vascular smooth muscle, and vascular endothelial cells (7-9). It accumulates at neuromuscular junctions and synapse-rich regions and is upregulated in muscle by experimental denervation (8). THSP4 mediates the adhesion of motor and sensory neurons and promotes neurite outgrowth (8). A polymorphism of THSP4 (A387P) is associated with early coronary artery disease (10-12). Unlike wild type THSP4, the A387P variant does not support HUVEC attachment and spreading (9). Integrin αM/β2 enables activated neutrophil adhesion to both the variant A387P and wild type THSP4, although the A387P variant induces a greater release of pro-inflammatory molecules (13).

References:

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