

## DESCRIPTION

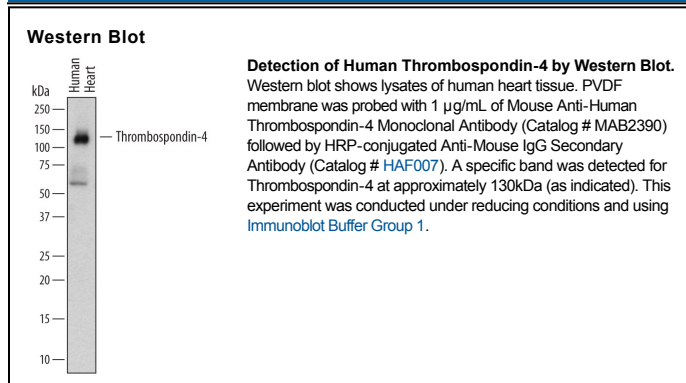
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Thrombospondin-4 in direct ELISAs and Western blots. Does not cross-react with recombinant human Thrombospondin-1, -2, or -3.
<b>Source</b>	Monoclonal Mouse IgG <sub>2B</sub> Clone # 276523
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human Thrombospondin-4 Ala22-Asn961 (Pro276Ala, Ala420Val) Accession # P35443
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied 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
<b>Western Blot</b>	1 µg/mL	See Below

## DATA



## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

Thrombospondin-4 (TSP-4) is a 140 kDa calcium-binding protein that interacts with other extracellular matrix molecules and modulates the activity of various cell types. TSP-1 and -2 constitute subgroup A and form disulfide-linked homotrimers, whereas TSP-3, -4, and -5/COMP constitute subgroup B and form pentamers (1, 2). The human TSP-4 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 TSP type-3 repeats (one with an RGD motif), and a TSP C-terminal domain (3). Human TSP-4 shares 93% aa sequence identity with mouse and rat TSP-4. Within the TSP type-3 repeats and the TSP C-terminal domain, human TSP-4 shares 79% aa sequence identity with TSP-3 and COMP, and 58% aa sequence identity with TSP-1 and -2. The coiled-coil motif mediates pentamer formation with COMP, either homotypically or heterotypically (3-6). TSP-4 binds a variety of matrix proteins including collagens I, II, III, V, laminin-1, fibronectin, and matrilin-2 (4). Interactions of TSP-4 with non-collagenous proteins are independent of divalent cations, while interactions with collagenous proteins are enhanced in the presence of zinc (4). TSP-4 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). TSP-4 mediates the adhesion of motor and sensory neurons and promotes neurite outgrowth (8). A polymorphism of TSP-4 (A387P) is associated with early coronary artery disease (10-12). Unlike wild type TSP-4, the A387P variant does not support HUVEC attachment and spreading (9). Integrin  $\alpha M/\beta 2$  enables activated neutrophil adhesion to both the variant A387P and wild type TSP-4, although the A387P variant induces a greater release of proinflammatory molecules (13).

## References:

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