Human Thrombospondin-4 Alexa Fluor® 647-conjugated Antibody

Monoclonal Mouse IgG_{2B} Clone # 276523

Catalog Number: FAB2390R

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Thrombospondin-4 in direct ELISAs and Western blots. Does not cross-react with recombinant human Thrombospondin-1, -2, or -3.
Source	Monoclonal Mouse IgG_{2B} Clone # 276523
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Thrombospondin-4 Ala22-Asn961 (Pro276Ala, Ala420Val) Accession # P35443
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 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.*

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

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 αM/β2 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).

PRODUCT SPECIFIC NOTICES

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