Human Thrombospondin-2 Alexa Fluor® 488-conjugated Antibody

Monoclonal Mouse IgG_{2A} Clone # 230934

Catalog Number: FAB1635G

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Thrombospondin-2 in direct ELISAs and Western blots. In direct ELISAs, this antibody does not cross-react with recombinant human Thrombospondin-1, -3, or -4.
Source	Monoclonal Mouse IgG_{2A} Clone # 230934
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Thrombospondin-2 Gly19-Ile1172 Accession # P35442
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 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-2 (TSP-2) is a 150 kDa calcium-binding protein that modulates cellular interactions with extracellular matrix. Thrombospondin-1 and -2 constitute subgroup A thrombospondin family members and form disulfide-linked homotrimers, whereas Thrombospondin-3, -4, and -5/COMP constitute subgroup B and form homopentamers (1-4). The human TSP-2 cDNA encodes a 1172 amino acid (aa) precursor that includes an 18 aa signal sequence followed by an N-terminal heparin-binding domain, an oligomerization motif, one vWF-C domain, three TSP type-1 repeats, three EGF-like repeats, seven TSP type-3 repeats, and a lectin-like TSP C-terminal domain (5). Human TSP-2 shares 88-90% aa sequence identity with bovine, mouse, and rat TSP-2. Within the TSP type-3 repeats and TSP C-terminal domain, human TSP-2 shares 80% aa sequence identity with human TSP-1 and approximately 60% aa sequence identity with human TSP-3, -4, and -5/COMP. TSP-2 regulates collagen matrix formation by altering fibroblast behavior during development and in areas of tissue remodeling in the adult (6, 7). Trimerization of TSP-2 is required for the calcium-dependent cell attachment and spreading functions, while the heparin-binding domain is responsible for the destabilization of focal adhesion sites (8-10). The heparin-binding domain also mediates binding to Integrins α3β1 and α6β1 on microvascular endothelial cells (EC) and Integrin α4β1 on large blood vessel EC (11, 12). A fragment of TSP-2 (heparin-binding domain, oligomerization motif, and vWF-C domain) promotes EC survival, proliferation, and chemotaxis (11). Inclusion of the three TSP type-1 domains results in a molecule that inhibits VEGF-induced EC migration and vascular tube formation (13, 14). *In vivo*, full length TSP-2 blocks tumor angiogenesis and induces vascular EC apoptosis (13, 15). HPRG functions as an apparent decoy receptor by preventing interaction of TSP-2 with CD36 on macrophages and microvasculature EC (14). TSP-2 also binds MMP-2 and facilitates MMP-2 clearance by the scavenger receptor LRP (16).

PRODUCT SPECIFIC NOTICES

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