

#### DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human Thrombospondin-2 in direct ELISAs and Western blots. In direct ELISAs, less than 1% cross-reactivity with recombinant human (rh) Thrombospondin-1 and rhThrombospondin-4 is observed.                                                                         |
| <b>Source</b>             | Polyclonal Goat IgG                                                                                                                                                                                                                                                         |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                                   |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant human Thrombospondin-2<br>Gly19-Ile1172<br>Accession # P35442                                                                                                                                                               |
| <b>Conjugate</b>          | Alexa Fluor 594<br>Excitation Wavelength: 590 nm<br>Emission Wavelength: 617 nm                                                                                                                                                                                             |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*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  $\alpha 3\beta 1$  and  $\alpha 6\beta 1$  on microvascular endothelial cells (EC) and Integrin  $\alpha 4\beta 1$  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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