

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Thrombospondin-1 in direct ELISAs and Western blots.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human Thrombospondin-1 Asn19-Pro1170 Accession # CAA32889
<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 either lyophilized or as a 0.2 µm filtered solution in PBS.

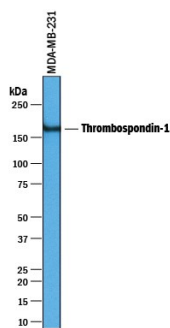
## APPLICATIONS

**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
<b>Western Blot</b>	1 µg/mL	See Below
<b>Immunohistochemistry</b>	5-15 µg/mL	See Below
<b>Simple Western</b>	10 µg/mL	See Below

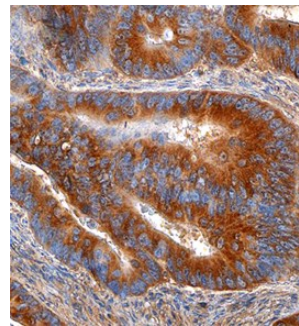
## DATA

### Western Blot



**Detection of Human Thrombospondin-1 by Western Blot.** Western blot shows lysates of MDA-MB-231 human breast cancer cell line. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human Thrombospondin-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3074) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF019). A specific band was detected for Thrombospondin-1 at approximately 160 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

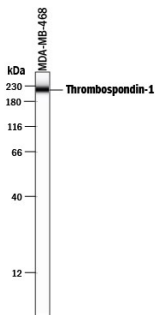
### Immunohistochemistry



#### Thrombospondin-1 in Human Colon.

Thrombospondin-1 was detected in immersion fixed paraffin-embedded sections of human colon using Goat Anti-Human Thrombospondin-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3074) at 1.7 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific staining was localized to the cytoplasm of epithelial cells. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

### Simple Western



**Detection of Human Thrombospondin-1 by Simple Western™.** Simple Western lane view shows lysates of MDA-MB-468 human breast cancer cell line, loaded at 0.2 mg/mL. A specific band was detected for Thrombospondin-1 at approximately 221 kDa (as indicated) using 10 µg/mL of Goat Anti-Human Thrombospondin-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3074) 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

<b>Reconstitution</b>	Reconstitute at 0.2 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-1 (TSP-1) is a 150-180 kDa member of the thrombospondin family of extracellular matrix proteins. Human TSP-1 is synthesized as an 1170 amino acid (aa) precursor that contains an 18 aa signal sequence and 1152 aa mature molecule. The mature molecule has been described as containing three distinct regions that create the shape of a dumbbell. There is an initial, 140 aa N-terminal laminin G-like globular region that binds heparin (aa 19-258). This is followed by an extended, central collagen-binding region that contains one type C von Willebrand factor domain, plus three TSP type I and three TSP type II (or EGF-like) domains (aa 259-712). The C-terminus (aa 713-1170) appears as a large globule with two halves; one calcium-binding region (aa 713-950) with seven Asp-rich TSP type III domains, and one terminal region (aa 951-1170) with TSP-unique motifs (1). This C-terminal region is believed to mediate CD47 and cell binding (2-5). The TSP type I repeats have multiple functions. They bind to type V collagen, laminin, fibronectin and CD36. They also contain a recognition site for C-mannosylation on Trp. Finally, a type I KRFK motif induces the release of mature TGF- $\beta$  from LAP. This is an effect not found in TSP-2. The function of the type II repeats is unclear. TSP-1 is secreted as a disulfide-linked 450 kDa homotrimer. The cysteines responsible lie just N-terminal to the first type I TSP repeat. Mature human TSP-1 is 61% aa identical to human TSP-2. It is also 95%, 97% and 95% aa identical to mouse, dog and rat TSP-1, respectively.

**References:**

1. Lawler, J. and R.O. Hynes (1986) *J. Cell Biol.* **103**:1635.
2. Frazier, W.A. (1987) *J. Cell Biol.* **105**:625.
3. Adams, J.C. and J. Lawler (2004) *Int. J. Biochem. Cell Biol.* **36**:961.
4. Sid, B. *et al.* (2004) *Crit. Rev. Oncol. Hematol.* **49**:245.
5. Floquet, N. *et al.* (2008) *Anch. Biochem. Biophys.* **478**:103.