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# Anti-Thrombospondin Picoband Antibody

Catalog # ABO10100

## Product Information

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| **Application** | WB, E |
| **Primary Accession** | P07996 |
| **Host** | Rabbit |
| **Reactivity** | Human, Mouse, Rat |
| **Clonality** | Polyclonal |
| **Format** | Lyophilized |
| **Description** | Rabbit IgG polyclonal antibody for Thrombospondin-1(THBS1) detection. Tested with WB, ELISA in Human;Mouse;Rat. |
| **Reconstitution** | Add 0.2ml of distilled water will yield a concentration of 500ug/ml. |

## Additional Information

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| **Gene ID** | 7057 |
| **Other Names** | Thrombospondin-1, THBS1, TSP, TSP1 |
| **Calculated MW** | 129383 |
| **Application Details** | ELISA , 0.1-0.5 □g/ml, Human, -<br>Western blot, 0.1-0.5 □g/ml, Human, Mouse, Rat |
| **Subcellular Localization** | Endoplasmic reticulum . Sarcoplasmic reticulum . |
| **Source** | Eukaryota |
| **Protein Name** | Thrombospondin-1 |
| **Contents** | Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3. |
| **Immunogen** | E. coli-derived human Thrombospondin recombinant protein (Position: D27-H112). Human Thrombospondin shares 81.4% amino acid (aa) sequence identity with mouse Thrombospondin. |
| **Purification** | Immunogen affinity purified. |
| **Cross Reactivity** | No cross reactivity with other proteins. |
| **Storage** | At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing. |

## Protein Information

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| **Name** | THBS1 ( HGNC:11785) |
| **Synonyms** | TSP, TSP1 |
| **Function** | Adhesive glycoprotein that mediates cell-to-cell and cell-to- matrix interactions (PubMed:15014436, PubMed:18285447, PubMed:2430973, PubMed:6489349). Multifunctional, involved in inflammation, angiogenesis, wound healing, reactive oxygen species (ROS) signaling, nitrous oxide (NO) signaling, apoptosis, senescence, aging, cellular self-renewal, stemness, and cardiovascular and metabolic homeostasis (PubMed:10613822, PubMed:11134179, PubMed:1371676, PubMed:14568985, PubMed:24511121, PubMed:29042481, PubMed:32679764). Negatively modulates dendritic cell activation and cytokine release, as part of an autocrine feedback loop, contributing to the resolution of inflammation and immune homeostasis (PubMed:14568985). Ligand for receptor CD47 (PubMed:19004835, PubMed:8550562). Modulates nitrous oxide (NO) signaling via CD47, hence playing a role as a pressor agent, supporting blood pressure (By similarity). Plays a role in endothelial cell senescence, acting via CD47, by increasing the abundance and activation of NADPH oxidase NOX1, and so generating excess ROS (PubMed:29042481). Inhibits stem cell self-renewal, acting via CD47 signaling, probably by regulation of the stem cell transcription factors POU5F1/OCT4, SOX2, MYC/c-Myc and KLF4 (By similarity). Negatively modulates wound healing, acting via CD47 (By similarity). Ligand for receptor CD36 (PubMed:10613822, PubMed:11134179, PubMed:1371676). Involved in inducing apoptosis in podocytes in response to elevated free fatty acids, acting via CD36 (By similarity). Plays a role in suppressing angiogenesis, acting, depending on context, via CD36 or CD47 (PubMed:10613822, PubMed:11134179, PubMed:1371676, PubMed:32679764). Promotes cellular senescence in a TP53-CDKN1A-RB1 signaling-dependent manner (PubMed:29042481). Ligand for immunoglobulin-like cell surface receptor SIRPA (PubMed:24511121). Involved in ROS signaling in non- phagocytic cells, stimulating NADPH oxidase-derived ROS production, acting via interaction with SIRPA (PubMed:24511121). Plays a role in metabolic dysfunction in diet-induced obesity, perhaps acting by exacerbating adipose inflammatory activity; its effects may be mediated, at least in part, through enhanced adipocyte proliferation (By similarity). Plays a role in ER stress response, via its interaction with the activating transcription factor 6 alpha (ATF6) which produces adaptive ER stress response factors (By similarity). May be involved in age-related conditions, including metabolic dysregulation, during normal aging (PubMed:29042481, PubMed:32679764). |
| **Cellular Location** | Secreted. Cell surface. Secreted, extracellular space, extracellular matrix. Endoplasmic reticulum {ECO:0000250\|UniProtKB:P35441}. Sarcoplasmic reticulum {ECO:0000250\|UniProtKB:P35441}. Note=Secreted by thrombin-activated platelets and binds to the cell surface in the presence of extracellular Ca(2+) (PubMed:101549, PubMed:6777381). Incorporated into the extracellular matrix (ECM) of fibroblasts (PubMed:6341993). The C-terminal region in trimeric form is required for retention in the ECM (PubMed:18285447). Also detected in the endoplasmic reticulum and sarcoplasmic reticulum where it plays a role in the ER stress response (By similarity). {ECO:0000250\|UniProtKB:P35441, ECO:0000269\|PubMed:6341993, ECO:0000269\|PubMed:6777381} |
| **Tissue Location** | Expressed by platelets (at protein level) (PubMed:101549). Expressed by monocyte-derived immature and mature dendritic cells (at protein level) (PubMed:14568985) |

## Background

THBS1 is also known as Thrombospondin 1, TSP1. The protein encoded by this gene is a subunit of a disulfide-linked homotrimeric protein. It is an adhesive glycoprotein that mediates cell-to-cell and cell-to-matrix interactions. This protein can bind to fibrinogen, fibronectin, laminin, type V collagen and integrins alpha-V/beta-1. It has been shown to play roles in platelet aggregation, angiogenesis, and tumorigenesis. In addition, the thrombospondin-1 protein is a member of the thrombospondinfamily. It is a multi-domain matrix glycoprotein that has been shown to be a natural inhibitor of neovascularization and tumorigenesis in healthy tissue. Both positive and negative modulation of endothelial cell adhesion, motility, and growth have been attributed to TSP1. This should not be surprising considering that TSP1 interacts with at least 12 cell adhesion receptors, including CD36, □±v integrins, □²1 integrins, syndecan, and integrin-associated protein (IAP or CD47). It also interacts with numerous proteases involved in angiogenesis, including plasminogen, urokinase, matrix metalloproteinase,thrombin, cathepsin, and elastase.

## Images

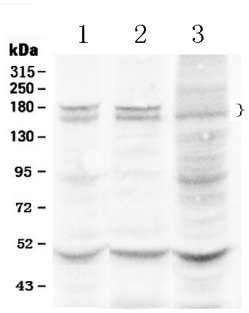


Figure 1. Western blot analysis of Thrombospondin using anti- Thrombospondin antibody (ABO10100). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: rat liver tissue lysates, Lane 2: mouse liver tissue lysates, Lane 3: HELA whole Cell lysates. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti- Thrombospondin antigen affinity purified polyclonal antibody (Catalog # ABO10100) at 0.5 □¼g/mL overnight at 4 □°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for Thrombospondin at approximately 165KD, 180KD. The expected band size for Thrombospondin is at 130KD.

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