

## Thrombospondin 1 Rabbit monoclonal antibody

Catalog: MB66460

Host: Rabbit

Reactivity: Human, Mouse

### BackGround:

The adhesive glycoprotein thrombospondin-1 (THBS1, TSP1) localizes to the extracellular matrix (ECM) and mediates interactions between cells and the ECM and among cells. Thrombospondin-1 is a multi-domain, glycosylated protein that interacts with a wide variety of extracellular targets, including matrix metalloproteinases (MMPs), collagens, cell receptors, growth factors, and cytokines. The protein structure of THBS1 includes an amino-terminal laminin G-like domain, a von Willebrand factor-binding domain, and multiple thrombospondin (TSP) repeated sequences designated as type I, type II, or type III repeats. Each thrombospondin domain interacts with a distinct type of cell surface ligands or protein targets. The amino-terminal domain interacts with aggrecan, heparin, and integrin proteins. Type I TSP repeats interact with MMPs and CD36, while carboxy-terminal repeats bind the thrombospondin receptor CD47. Through these interactions, THBS1 exerts diverse effects on different signaling pathways, such as VEGF receptor/NO signaling, TGF $\beta$  signaling, and the NF- $\kappa$ B pathway. Thrombospondin-1 is an important regulator of many biological processes, including cell adhesion/migration, apoptosis, angiogenesis, inflammation, vascular function, and cancer development. The activity of thrombospondin-1 is mainly regulated by extracellular proteases. The metalloproteinase ADAMTS1 cleaves thrombospondin, resulting in the release of peptides with anti-angiogenic properties. Elastase and plasmin proteases degrade the THBS1 protein and down regulate its activity. As THBS1 is an important protein inhibitor of angiogenesis, the development of thrombospondin-based compounds and their use in therapeutic studies may provide a beneficial approach to the treatment of cancer.

### Product:

Liquid in 50mM Tris-Glycine (pH 7.4), 0.15M NaCl,

50% Glycerol, 0.01% Sodium azide and 0.05% BSA.

### Molecular Weight:

~ 160 kDa

### Swiss-Prot:

P07996

### Purification&Purity:

The antibody was purified by immunogen affinity chromatography.

### Applications:

WB (1/500 - 1/1000), IHC (1/50 - 1/100), IP (1/10 - 1/50)

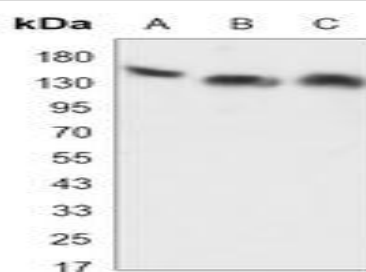
### Storage&Stability:

Store at 4 °C short term. Aliquot and store at -20 °C long term. Avoid freeze-thaw cycles.

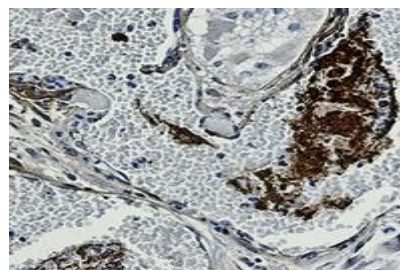
### Specificity:

Recognizes endogenous levels of Thrombospondin 1 protein.

### DATA:



Western blot analysis of Thrombospondin 1 expression in MCF7 (A), 293T (B), C2C12 (C) whole cell lysates.



Immunohistochemical analysis of Thrombospondin 1 staining in human cholangiocarcinoma formalin fixed paraffin embedded tissue section.

The section was pre-treated using heat mediated antigen retrieval with

### Bioworld Technology, Inc.

Add: 1660 South Highway 100, Suite 500 St. Louis Park, MN 55416, USA.

Email: [info@bioworld.com](mailto:info@bioworld.com)

Tel: 6123263284

Fax: 6122933841

### Bioworld technology, co. Ltd.

Add: No 9, weidi road Qixia District Nanjing, 210046, P. R. China.

Email: [info@biogot.com](mailto:info@biogot.com)

Tel: 0086-025-68037686

Fax: 0086-025-68035151



## PRODUCT DATA SHEET

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sodium citrate buffer (pH 6.49). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section

was then counterstained with haematoxylin and mounted with DPX.

**Note:**

For research use only, not for use in diagnostic procedure.

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**Bioworld Technology, Inc.**

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MN 55416, USA.

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Fax: 6122933841

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