

Thrombospondin-1 Antibody



Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R	Endogenous	170	Rabbit	#P07996	7057

Product Usage Information

Application

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Thrombospondin-1 Antibody recognizes endogenous levels of total thrombospondin-1 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ser670 of human thrombospondin-1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

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 (1). 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 (1). Through these interactions, THBS1 exerts diverse effects on different signaling pathways, such as VEGF receptor/NO signaling, TGFβ signaling, and the NF-κB pathway (2-5). Thrombospondin-1 is an important regulator of many biological processes, including cell adhesion/migration, apoptosis, angiogenesis, inflammation, vascular function, and cancer development (2-5). 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 (6). 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 (7,8).

Background References

1. Resovi, A. et al. (2014) *Matrix Biol* 37, 83-91.
2. Lawler, P.R. and Lawler, J. (2012) *Cold Spring Harb Perspect Med* 2, a006627.
3. Lopez-Dee, Z. et al. (2011) *Mediators Inflamm* 2011, 296069.
4. Roberts, D.D. et al. (2012) *Matrix Biol* 31, 162-9.
5. Kazerounian, S. et al. (2008) *Cell Mol Life Sci* 65, 700-12.
6. Iruela-Arispe, M.L. (2008) *Curr Drug Targets* 9, 863-8.
7. Mirochnik, Y. et al. (2008) *Curr Drug Targets* 9, 851-62.
8. Taraboletti, G. et al. (2010) *Oncotarget* 1, 662-73.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween@ 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.