SANTA CRUZ BIOTECHNOLOGY, INC.

Thrombospondin 1 (N-20): sc-12312

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The Power to Question

BACKGROUND

The thrombospondin proteins (TSP 1-4) compose a family of glycoproteins that are involved in cell-to-cell and cell-to-matrix signaling. These extracellular, cell-surface proteins form complexes of both homo- and hetero-multimers. Thrombospondins play a role in development, aggregation of platelets, adhesion and migration of cells and progression of cells through the growth cycle. Thrombospondin 1 is released from platelets in response to thrombin stimulation and is a transient component of the extracellular matrix of developing and repairing tissues. Thrombospondin 2 shares a high degree of homology with TSP 1, and is thought to have overlapping but unique functions. Thrombospondin 3 is a developmentally regulated heparin binding protein. Thrombospondin 4 is neuronally expressed and stimulates neurite outgrowth.

REFERENCES

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2. Bornstein, P., O'Rourke, K., Wilkstrom, K., Wolf, F.W., Katz, R., Li, P., and Dixit, V.M. 1991. A second, expressed thrombospondin gene (Thbs2) exists in the mouse genome. J. Biol. Chem. 266: 12821-12824.
3. LaBell, T.L., Milewicz, D.J., Disteche, C.M., and Byers, B.H. 1992. Thrombospondin II: partial cDNA sequence, chromosome location, and expression of a second member of the thrombospondin gene family in humans. Genomics 12: 421-429.
4. O'Rourke, K.M., Laherty, C.D., and Dixit, V.M. 1992. Thrombospondin 1 and thrombospondin 2 are expressed as both homo- and heterotrimers. J. Biol. Chem. 267: 24921-24924.
5. Jahav, J. 1993. The functions of thrombospondin and its involvement in physiology and pathophysiology. Biochem. Biophys. Acta. 1182: 1-14.
6. Arber, S. and Caroni, P. 1995. Thrombospondin-4, an extracellular matrix protein expressed in the developing and adult nervous system promotes neurite outgrowth. J. Cell Biol. 131: 1083-1094.
7. Qabar, A., Derick, L., Lawler, J., and Dixit, V. 1995. Thrombospondin 3 is a pentameric molecule held together by interchain disulfide linkage involving two cysteine residues. J. Biol. Chem. 270: 12725-12729.
8. Adams, J.C. 1997. Thrombospondin-1. Int. J. Biochem. Cell Bio. 29: 861-865.

CHROMOSOMAL LOCATION

Genetic locus: THBS1 (human) mapping to 15q15; Thbs1 (mouse) mapping to 2 F1-F3.

SOURCE

Thrombospondin 1 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Thrombospondin 1 of human origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-12312 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Thrombospondin 1 (N-20) is recommended for detection of Thrombospondin 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Thrombospondin 1 siRNA (h): sc-36665 and Thrombospondin 1 siRNA (m): sc-36666.

Molecular Weight of Thrombospondin 1: 165-198 (various forms) homotrimer= 420 kDa.

Positive Controls: CCD-1064Sk cell lysate: sc-2263 or Saos-2 cell lysate: sc-2235.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITAITONS

1. Mimura, Y., Ihn, H., Jinnin, M., Asano, Y. Yamane, K and Tamaki, K. 2005. Constitutive thrombospondin-1 overexpression contributes to autocrine transforming growth factor-β signaling in cultured scleroderma fibroblasts. Am. J. Pathol. 166: 1451-1463.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.