Thermo SCIENTIFIC

DATA SHEET
Rev 031308L

Thrombospondin (TSP) Ab-4 (Clone A6.1)

Mouse Monoclonal Antibody

Cat. #MS-421-P0, -P1, or -P (0.1ml, 0.5ml, or 1.0ml at 200µg/ml) (Purified Ab with BSA and Azide)
Cat. #MS-421-P1ABX or -PABX (0.1ml or 0.2ml at 1.0mg/ml) (Purified Ab without BSA and Azide)
Cat. #MS-421-B0, -B1, or -B (0.1ml, 0.5ml, or 1.0ml at 200µg/ml) (Biotin-Labeled Ab with BSA and Azide)
Cat. #MS-421-R7 (7.0ml) (Ready-to-Use for Immunohistochemical Staining)
Cat. #MS-421-PCS (5 Slides) (Positive Control for Histology)

Description: Thrombospondin is a protein from platelet a-granules. It is secreted at sites of platelet activation and aggregation and is involved in the processes of chemotaxis, adhesion, proliferation and differentiation of leukocytes, fibroblasts, smooth muscle and endothelial cells.

Comments: Ab-4 inhibits TSP-collagen interaction.[2] Its binding to TSP is unaffected by glycosaminoglycans (e.g. hyaluronic acid, chondroitin sulfate, and heparin).[3] Its binding is enhanced by EDTA i.e. at low conc. of Ca_2+.[1] It shows no cross-reaction with fibronectin, fibrinogen, and von Willebrand factor. Shows a mild cross reaction with TSP 2.

Mol. Wt. of Antigen: ~450kDa (non-reduced) 170 to 180kDa (reduced)

Epitope: Collagen Type V-binding domain of TSP

Species Reactivity: Human, Cow, Pig, Horse, Dog, Sheep, Mouse, and Rat. Others-not known

Clone Designation: A6.1

Ig Isotype: IgG_1

Immunogen: Reduced and alkylated purified human TSP (fully denatured) from the supernatant of thrombin-activated platelets.[1]

Applications and Suggested Dilutions:

- Electron Microscopy[1]
- Flow Cytometry
- Immunofluorescence
- Immunoprecipitation (Native verified)
  (Use Protein G) (Ab 2µg/mg protein lysate)
- Western Blotting (at 1-2µg/ml for 2hrs at RT)
  (Ab-11 is better)
- Immunohistology (Formalin/paraffin)
  (Ab 1:25 to 1:50 for 20 min at RT using the LP system)

* [Staining of formalin-fixed tissues REQUIRES boiling tissue sections in 10mM citrate buffer, pH 6.0, (***NEOMARKERS'*** Cat. #AP-9003), for 10-20 min followed by cooling at RT for 20 min.]

The optimal dilution for a specific application should be determined by the investigator.

- ***Staining tips:*** If the staining is too light, use lower dilution or longer time.
  If the staining is too strong, use higher dilution or shorter time.

Positive Control: Platelets in placenta, megakaryocytes in bone marrow.

Cellular Localization: Secretory granules, Golgi complex, endoplasmic reticulum, extracellular matrix

Supplied As: 200µg/ml antibody purified from the ascites fluid by Protein G chromatography. Prepared in 10mM PBS, pH 7.4, with 0.2% BSA and 0.09% sodium azide. Also available without BSA and azide at 1mg/ml. **Or** Prediluted antibody which is ready-to-use for staining of formalin-fixed, paraffin-embedded tissues.

Storage and Stability:

Ab with sodium azide is stable for 24 months when stored at 2-8°C. Antibody WITHOUT sodium azide is stable for 36 months when stored at below 0°C.

Key References:

1. Dixit VM, *et al.* J Bio Chem, 1986, 261(4):1962-8.
2. Galvin NJ, *et al.* J Cell Bio, 1987, 104(5):1413-22.
3. Dixit VM, *et al.* Biochemistry, 1985, 24(16):4270-5.

Limitations and Warranty:

Material Safety Data:

This product is not licensed or approved for administration to humans or to animals other than the experimental animals. Standard Laboratory Practices should be followed when handling this material. The chemical, physical, and toxicological properties of this material have not been thoroughly investigated. Appropriate measures should be taken to avoid skin and eye contact, inhalation, and ingestion. The material contains 0.09% sodium azide as a preservative. Although the quantity of azide is very small, appropriate care should be taken when handling this material as indicated above. The National Institute of Occupational Safety and Health has issued a bulletin citing the potential explosion hazard due to the reaction of sodium azide with copper, lead, brass, or solder in the plumbing systems. Sodium

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azide forms hydrazoic acid in acidic conditions and should be discarded in a large volume of running water to avoid deposits forming in metal drainage pipes.

For Research Use Only

Additional Key References:

1. Osterhout DJ; Frazier WA; Higgins D. Thrombospondin promotes process outgrowth in neurons from the peripheral and central nervous systems. Developmental Biology, 1992 Apr, 150(2):256-65.

2. Frazier WA. Thrombospondins. Current Opinion in Cell Biology, 1991 Oct, 3(5):792-9.

3. Good DJ; Polverini PJ; Rastinejad F; Le Beau MM; Lemons RS; Frazier WA; Bouck NP. A tumor suppressor-dependent inhibitor of angiogenesis is immunologically and functionally indistinguishable from a fragment of thrombospondin. Proceedings of the National Academy of Sciences of the United States of America, 1990 Sep, 87(17):6624-8.

4. Frazier WA. Thrombospondin: a modular adhesive glycoprotein of platelets and nucleated cells. Journal of Cell Biology, 1987, 105(2):625-32.

5. Galvin NJ; Vance PM; Dixit VM; Fink B; Frazier WA. Interaction of human thrombospondin with types I-V collagen: direct binding and electron microscopy. Journal of Cell Biology, 1987 May, 104(5):1413-22.

6. Santoro SA; Frazier WA. Isolation and characterization of thrombospondin. Methods in Enzymology, 1987, 144:438-46.

7. Dixit VM; Galvin NJ; O'Rourke KM; Frazier WA. Monoclonal antibodies that recognize calcium-dependent structures of human thrombospondin. Characterization and mapping of their epitopes. Journal of Biological Chem, 1986, 261(4):1962-8.

8. Dixit VM; Haverstick DM; O'Rourke KM; Hennessy SW; Grant GA; Santoro SA; Frazier WA. Effects of anti-thrombospondin monoclonal antibodies on the agglutination of erythrocytes and fixed, activated platelets by purified thrombospondin. Biochemistry, 1985 Jul 30, 24(16):4270-5.

9. Roberts DD; Sherwood JA; Spitalnik SL; Panton LJ; Howard RJ; Dixit VM; Frazier WA; Miller LH; Ginsburg V. Thrombospondin binds falciparum malaria parasitized erythrocytes and may mediate cytoadherence. Nature, 1985, 318(6041):64-6.

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