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Product Information

Monoclonal Anti-SPTBN1 antibody produced in mouse
clone FOD5, hybridoma cell culture supernatant

Catalog Number **SAB4200662**

Product Description

Monoclonal Anti-SPTBN1 (mouse IgM isotype) is derived from the hybridoma FOD5 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a synthetic peptide corresponding to an internal region of human SPTBN1 (GeneID: 6711), conjugated to KLH. The corresponding sequence is identical in mouse and rat. The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents (Sigma ISO-2). The antibody is generated from culture supernatant of hybridoma cells grown in a bioreactor.

Monoclonal Anti-SPTBN1 recognizes human, rat, canine and bovine SPTBN1. The product may be used in several immunochemical techniques including immunoblotting (expected isoforms MW ~225-275 kDa; actual band at ~250 kDa), immunofluorescence, flow cytometry and immunohistochemistry. Detection of the SPTBN1 band by immunoblotting is specifically inhibited by the immunizing peptide.

SPTBN1, also known as Spectrin-beta, non-erythrocytic 1 chain or β-Fodrin, is an important cytoskeletal protein. Spectrin is a heterodimer, consist of two subunits, α (SPTAN1) and β (SPTBN1). Spectrin forms a complex network by interacting with intracellular proteins such as actin, ankyrin, and adducin. Spectrin has an important role in maintaining the stability, structure, and shape of the cell. It also maintains the arrangement of transmembrane proteins, and organization of organelles. Furthermore, Spectrin is involved in diverse cell functions such as cell adhesion, cell spreading, and the cell cycle.[1-2] Several spectrin isoforms that differ at their C- and/or N-terminal region have been reported, with apparent molecular mass of 224, 240, 251 and 275 kDa. The prototypical SPTBN1 contains an N-terminal actin-binding domain, 17 triple helix Spectrin repeats, and a C-terminal pleckstrin homology (PH) domain. The Spectrin repeats mediate specific protein interactions. For example, ankyrin interacts with SPTBN1 repeats 14 and 15.[1,4]

Mutations in *SPTBN1* have been linked to hereditary elliptocytosis, a type of haemolytic anaemia, spinocerebellar ataxia type 5 and cancer.[1-4]

Reagent

Supplied as a culture supernatant solution containing 15 mM sodium azide as a preservative. The product contains fetal calf serum.

Antibody Concentration: ~ 1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For extended storage, freeze at −20 °C in working aliquots. Repeated freezing and thawing or storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working dilution of 1:500-1:1000 is recommended using whole extracts of SH-SY5Y cells.

Flow Cytometry: a working dilution of 1:100-1:200 is recommended using HeLa cells.

Immunofluorescence: a working dilution of 1:500-1:1000 is recommended using methanol:acetone fixed MDA-MB-231 cells.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

1. Zhang, R., et al., *Sci. China Life Sci.*, **56**, 1076-1085 (2013).

2. Tse, W.T., et al., *J. Clin. Invest.*, **86**, 909-916 (1990).
3. Chen, T., et al., *J. Molec. Neurosci.,* **17**, 59-70 (2001)
4. Cunha, S.R., and Mohler, P.J., *J. Cell Mol. Med.*, **13**, 4364-4376 (2009).

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