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Product Information

Anti-Myosin (Smooth) antibody, Mouse monoclonal
clone hSM-V, purified from hybridoma cell culture

Product Number **SAB4200726**

Product Description

Anti-Myosin (Smooth) antibody, Mouse monoclonal (mouse IgG1 isotype) is derived from the hSM-V hybridoma produced by the fusion of mouse myeloma cells and splenocytes from a mouse immunized with human uterus smooth muscle extract.[1] The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents, Product Number ISO2. The antibody is purified from culture supernatant of hybridoma cells.

Monoclonal Anti-Myosin (Smooth) antibody specifically recognizes myosin heavy chain polypeptides of 204 and 200 kDa (SM-1 and SM-2 respectively). The antibody is specific for smooth muscle Myosin and does not react with skeletal, cardiac or non-muscle myosin.[1] It recognizes Smooth Myosin from human[1,2], mouse[3], porcine[4], rabbit[5], rat[6], sheep[7], bovine[8], canine[9] and quail[10] origin. Monoclonal Anti-Myosin (Smooth) is recommended to use in various immunochemical assays, including Immunohistochemistry[2], Immunoblotting[3] (detect doublet at ~200 and ~204 kDa), Immunofluorescence[4,11], Immunoprecipitation[1] and FACS[12]. In Immunohistochemical staining, the antibody stains vascular and visceral smooth muscle cells, as well as cells that have smooth muscle-like characteristics (myofibroblasts and myoepithelial cells).[1] The antibody does not react with the epithelial, endothelial and connective tissue fibroblast extracts.[1,]

Myosin is a cytoplasmic protein characterized by its ATPase activity and its ability to reversibly bind to actin.[13] Myosin together with actin belong to a family of contractile proteins which are responsible to a wide range of cell motility functions. As well, myosin is involved in a variety of cellular processes including secretion, cytoplasmic streaming, locomotion, phagocytosis and cytokinesis.[14] Myosin contains two heavy chains (~200 kDa each) and four light chains (15-26 kDa). The Myosin molecules which consist of two major regions: tail (rod) and head[15], aggregate through the tail region into filaments and interact through the head region with actin and with ATP. Myosin molecules assemble into filaments occurs spontaneously in solutions of physiologic ionic strength and pH. [16]

ATPase activation of myosin provides the immediate source of the free energy that drives muscle contraction. Monoclonal Anti-Myosin (Smooth) is a specific and reliable smooth muscle marker, due to its specificity for smooth muscle myosin with no cross-reaction with skeletal, cardiac or non-muscle myosins.[1] This antibody can be a useful tool in the identification and localization of smooth muscle elements, in the diagnosis and classification of mesenchymal tumors and in myosin expression studies in normal and malignant cell proliferations.[17]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline pH 7.4, containing 15 mM sodium azide as a preservative.

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 Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store at –20 °C. For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing 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

Immunohistochemistry: a working concentration of 10-20 μg/ml is recommended using methacarn-fixed paraffin-embedded human tonsil sections.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

References

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