Product No. P-9318
Monoclonal Anti-Plectin
Mouse Ascites Fluid
Clone 7A8

Lot 073H4817

Monoclonal Anti-Plectin (mouse IgG1 isotype) is derived from the 7A8 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from an immunized mouse. Plectin purified from rat glioma C6 cells was used as the immunogen. The isotype is determined using Sigma ImmunoType™ Kit (Sigma Stock No. ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Sigma Stock No. ISO-2). The product is provided as ascites fluid with 0.1% sodium azide (see MSDS)* as a preservative.

Specificity

Monoclonal Anti-Plectin recognizes an epitope located in the middle section on the rod domain of the plectin molecule, approximately half way between the globular end domains.[1,2] The kinase C phosphorylation site was found on the same terminal segment that contains the antibody epitope.[1] The antibody labels the 300 kD band of plectin (lower m.w. band(s) may also be stained) in immunoblotting. The antibody stains filamentous structures in frozen tissue sections. The antibody inhibits the interaction of plectin with vimentin and lamin B.[1] Cross reactivity has been observed with human, rat and marsupial (*Potorous tridactylis*, PtK2 cell line).

Working Dilution: 1:200

The working dilution was determined by indirect immunofluorescent labeling of unfixed, frozen sections of rat heart.

In order to obtain best results it is recommended that each individual user determine the optimum working dilution for their system by titration assay.

Description

Plectin[3] is an abundant, high molecular weight, cytomatrix protein (300 kD) found in a wide variety of tissue and cell types. Plectin is found in stratified and nonstratified epithelia, fibroblasts, endothelial cells and astrocytes, as well as in striated, smooth and cardiac muscle, but not in neurons. The pattern of cellular staining of plectin in immunofluorescence microscopy varies among cell types. In fibroblasts, endothelial cells of vessels, epithelia of bile duct, small intestine, uterus, urinary bladder and stomach, staining is observed throughout the cytoplasm. Hepatocytes and smooth muscle cells are stained primarily at their periphery. Epithelial cells of tongue and cardiac muscle cells show cytoplasmic and accentuated peripheral staining. In line with its wide-spread distribution, plectin interacts with a variety of proteins, including vimentin, microtubule-associated proteins 1 and 2, spectrin-like polypeptides, glial fibrillary acidic protein, certain skin keratins and lamin B. Plectin also has a strong tendency for self-association. Based on biochemical and immunolocalization studies, it has been proposed that plectin plays a role in the cross-linking of intermediate filaments, the interlinking of intermediate filaments with microtubules and microfilaments, and the anchoring of intermediate filaments to the plasma membrane and the nuclear membrane. Plectin may also be part of the signal transduction mechanism involving kinases A and C, because *in vitro* as well as *in vivo* phosphorylation of the protein by those kinases differentially affected its binding affinities to vimentin and lamin B.

Uses

Monoclonal Anti-Plectin may be used for the localization of plectin using ELISA, immunoblot, dot blot, immunocytochemistry and immunoelectronmicroscopy.

*Due to the sodium azide content a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Storage

For continuous use, store at 0-5°C. For extended storage, the solution may be frozen in working aliquots. Repeated freezing and thawing is **not** recommended. Storage in "frost-free" freezers is **not** recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

References

1. Foisner, R., et al., J. Cell Biol., **112**, 397 (1991).
2. Wiche, G., et al., J. Cell Biol., **114**, 83 (1991).
3. Wiche, G., Crit. Rev. Biochem. Molec. Biol., **24**, 41 (1989).

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