Product Information

Monoclonal Anti-Synaptophysin

Clone SVP-38
Mouse Ascites Fluid

S5768

Product Description

Monoclonal Anti-Synaptophysin (mouse IgG1 isotype) is derived from the hybridoma produced by the fusion of mouse myeloma cells and splenocytes from an immunized mouse. A synaptosome preparation from rat retina was used as the immunogen. The isotype is determined using Sigma ImmunoType™ Kit (Cat. No. ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Cat. No. ISO-2).

Monoclonal Anti-Synaptophysin recognizes synaptophysin (38 kDa) in rat brain extracts using immunoblotting and immunohistochemistry (frozen section). The antibody also reacts with human, guinea pig, and pig synaptophysin. The antibody localizes synaptophysin in neurons, neuromuscular junctions, paraganglia cells, hypophysis, pancreatic islet cells, and adrenal cells. The antibody detects synaptophysin in many types of benign and malignant neural and epithelial neuroendocrine neoplasmas. Synaptophysin has not been detected in non-neural or nonneuroendocrine tumors.

Monoclonal Anti-Synaptophysin is a useful tool for studying the synaptic structure and its relationship with neurotransmitters. It may be used as a reliable broad range marker of neuroendocrine differentiation. The antibody can be used in immunohistology for defining neural and epithelial neuroendocrine neoplasma such as:

- paraganglioma
- neuroblastoma
- ganglioneuroblastoma
- ganglioneuroma
- carcinoid
- islet cell adenoma and carcinoma
- medullary thyroid carcinoma
- pituitary adenoma
- parathyroid adenoma

Synaptic vesicles play an important role in neurotransmission. At the synapse, neurotransmitters are stored in synaptic vesicles or mediated by proteins in the synaptic vesicle membranes that are being released by synaptic vesicle exocytosis. Synaptophysin (SP), a 38 kDa synaptic vesicle protein (also known as P38 or SVP38) is one of several major protein components that are present in synaptic vesicles, possibly responsible for neuronal transmission. Detergent solubilization, proteolytic digestion and antibody binding experiments indicate the SP is an integral membrane protein having a domain exposed on the cytoplasmic surface. The primary amino acid sequence of SP, deduced from its cDNA implies that it may form a synaptic vesicle specific membrane channel with a cytoplasmic domain instrumental in the interaction of synaptic vesicles with cytoplasmic factors. Studies with specific antisera have shown that identical or very similar proteins exist in endocrine cells (adrenal, medulla, anterior pituitary, and endocrine pancreas) but not in the exocrine glands or any other non-neuronal tissue.

Reagent

Monoclonal Anti-Synaptophysin is provided as ascites fluid containing 0.1% sodium azide.

Precautions and Disclaimer

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

Storage/Stability

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. Storage in "frost-free" freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

By immunoblotting, a minimum working antibody dilution of 1:200 is recommended using an extract of rat brain.

By immunohistochemistry, a minimum working antibody dilution of 1:200 is recommended using frozen sections of rat cerebellum and the Mouse ExtrAvidin® Staining Kit (Product Code EXTRA-2).

In order to obtain best results in various techniques, it is recommended that each individual user determine their working dilution by titration.

References

1. Barnstable, C.J., et al., Neurosci. Res. (Suppl.), 8, S27-S41 (1988).
2. Wiedenmann, B., and Franke, W.W., Cell, 41, 1017-1028 (1985).
3. Jahn, R., et al., Proc. Natl. Acad. Sci., 82, 4137-4141 (1985).
4. Akagawa, K., et al., Biomed. Res., 9, 161-168 (1988).
5. Miettinen, M., Arch. Pathol. Lab. Med., 127, 288-294 (1987).
6. Hoog, A., et al., Ultrastruct. Pathol., 12, 673- 678 (1988).
7. Naritoku, W.Y., and Taylor, C.R., J. Histochem. Cytochem., 30, 253-260 (1982).

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