



Product Information

MONOCLONAL ANTI-SYNAPTOBREVIN

Clone SP11, Purified Mouse Immunoglobulin

Product Number **S5312**

Product Description

Anti-Synaptobrevin (mouse IgG1) is derived from the hybridoma produced by the fusion of MSO mouse myeloma cells with splenocytes from BALB/c mice immunized with crude human synaptic immunoprecipitate.

Anti-Synaptobrevin recognizes the synaptic vesicle protein synaptobrevin (VAMP) in human and porcine tissue by immunoblotting, ELISA and immunohistochemistry on paraffin embedded tissue sections.

SNAREs (soluble N-ethylmaleimide-sensitive factor attachment protein receptors) are membrane-bound proteins that are involved in vesicular trafficking. There are two sets of membrane-embedded SNAREs. The v- or vesicle-SNAREs are present in the membrane of transport vesicles while the t- or transport-SNAREs are embedded in the target membrane. V-SNAREs bind directly to t-SNAREs to mediate the events surrounding transport vesicle fusion with the target membrane. Both sets of proteins are essential for proper transport vesicle fusion. Two well-characterized v-SNAREs, synaptobrevin isoforms 1 and 2 (also known as vesicle associated membrane protein, VAMP-1 and -2) bind specifically to t-SNARE syntaxin isoforms 1 and 4 *in vitro*. Synaptobrevin-1 and -2 are tissue-specific isoforms of the same gene. They are essential for neurotransmitter release. Inactivation of synaptobrevin-1 or -2, *in vivo*, results in the accumulation of transport vesicles at the target membrane. This finding suggests that synaptobrevin 1/2 is involved in the fusion of the vesicle to the target membrane.

Both synaptobrevin-1 and -2 isoforms are expressed in the nervous system but are differently distributed among the specialized parts of the tissue.

Synaptobrevin-1 and -2 have also been shown to be present in all rat tissues tested, including kidney, adrenal gland, liver, pancreas, thyroid, heart, and smooth muscle. The two isoforms are differentially expressed in other tissues, however. Synaptobrevin-1 is the only isoform expressed in exocrine pancreas and kidney tubular cells, whereas synaptobrevin-2 is

the predominant isoform present in Langerhans islets and in glomerular cells.

Reagents

Anti-Synaptobrevin is supplied as 200 µg of purified antibody in 200 µl phosphate buffered saline with 0.1% sodium azide.

Precautions and Disclaimer

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 hazardous and safe handling practices.

Storage/Stability

Store at 4°C for one month. For extended storage, freeze at -20°C 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. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

The recommended working dilution is 1:1000 for immunoblotting using peroxidase conjugated goat anti-mouse IgG and chemiluminescent detection.

Anti-Synaptobrevin does not require pretreatment of paraffin sections with either trypsin or pronase. Additionally, heat pretreatment prior to staining of paraffin sections is not required.

Note: In order to obtain best results and assay sensitivities of different techniques and preparations, we recommend determining optimal working dilutions by titration test.

References

1. Lan, L. et al., *Biochem. J.*, **349**, 611-621 (2000).
2. Isenmann, S. et al., *Mol. Biol. Cell*, **9**, 1649 (1998).
3. Rothman, J.E. and Wieland F.T., *Science*, **272**, 227 (1996).

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