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ProductInformation

MONOCLONAL ANTI-SNAP-25
Clone SP12, Purified Mouse Immunoglobulin

Product Number **S5187**

Product Description

Anti-SNAP-25 (mouse IgG1) is derived from the hybrodoma produced by the fusion of MSO mouse myeloma cells with splenocytes from BALB/c mice immunized with crude human synaptic immunoprecipitate.

Anti-SNAP-25 recognizes the pre-synaptic protein SNAP-25 (26-27 kDa) in human, rat, hamster and porcine tissue by immunoblotting, ELISA and immunohistochemistry on paraffin embedded tissue sections.

SNAP-25 (synaptosome-associated protein of 25 kDa) is a membrane bound, pre-synaptic nerve terminal protein that plays an essential role in synaptic vesicle fusion and exocytosis.[1-3] The molecular events leading to neurotransmitter release in the synaptic cleft are complex, involving multiple interacting proteins, generically termed SNAP receptors (SNAREs).[3-6] It has been suggested that SNAP-25 and syntaxin on the neuronal plasma membrane (t-SNARE) form a stable ternary complex.[7] This core complex serves as a docking complex for two additional membrane fusion proteins, β-SNAP and NSF (N-ethylmaleimide-sensitive fusion protein). ATP hydrolysis by NSF causes dissociation of the complex during priming of the exocytosis machinery. SNAP-25 induced reassembly and interaction with synaptotagmin (Syt), is thought to drive the Ca^{2+}-triggered vesicle-plasma membrane fusion and exocytosis. SNAP-25 has a key role in both developing and mature neurons. During development, SNAP-25 expression correlates with synaptogenesis, axonal growth and neuronal maturation and is found mainly in cell bodies of neonatal brain.[2,3,8,9] In the adult nervous system, SNAP-25 is localized to presynaptic nerve terminals where it is conveyed by fast axonal transport.[1,10,11] SNAP-25 consists of two alternatively spliced isoforms SNAP-25A and SNAP-25B, differentially expressed in neurons and neuroendocrine cells.[12,13] SNAP-25A and SNAP-25B differ by nine amino acids in the central domain. Two of these residues alter the relative positioning of the clustered cysteine residues that are required for post-translational palmitoylation implicated in membrane anchoring,[10] suggesting that the two SNAP-25 isoforms may play distinct roles in vesicular fusion events.

Reagents

Anti-SNAP-25 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 1:5,000 for immunoblotting using peroxidase conjugated goat anti-mouse IgG and chemiluminescent detection.

Anti-SNAP-25 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

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