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ProductInformation

Anti-Synapsin II
produced in rabbit, affinity isolated antibody

Catalog Number **S2822**

Product Description

Anti-Synapsin II is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acids 438-453 located near the C-terminus of rat synapsin II (Gene ID: 29179), conjugated to KLH. This sequence is identical in rat synapsin IIa and IIb isoforms and in mouse synapsin II, and is highly conserved in human synapsin IIa and IIb (one amino acid substitution). The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Synapsin II specifically recognizes human, rat, and mouse synapsin IIa and IIb by immunoblotting (synapsin IIa ~74 kDa, synapsin IIb ~54 kDa). Staining of the synapsin IIa/b bands in immunoblotting is specifically inhibited by the immunizing peptide.

Synapsins are a family of neuron-specific phosphoproteins that are localized on the cytoplasmic surface of small synaptic vesicles.[1, 2] Synapsins regulate synaptic vesicle clustering, neurotransmitter release and the formation of synaptic terminals. This family consists of synapsin Ia and Ib (synapsin I, Syn1), synapsin IIa and IIb (synapsin II, Syn2) and synapsin III (Syn3). The various isoforms are generated via alternative splicing of different genes.[3] Synapsins are ubiquitously expressed in neurons. They show high homologies in their amino terminal regions. The major difference between synapsins I and II is the presence of a proline-rich C-terminal domain of synapsin I that contains clusters of basic amino acids. Synapsin II is involved in the formation of synaptic terminals during neuronal development.[4] Similar to synapsin I, synapsin II is able to link synaptic vesicles to the actin cytoskeleton, thus regulating the availability of synaptic vesicles for exocytosis.[1-4] Synapsin II association with synaptic vesicles is controlled by phosphorylation.[1, 5] Synapsin II has been proposed as a candidate associated with increased vulnerability to schizophrenia.[6]

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

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in “frost-free” freezers, is 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

Immunoblotting: a working concentration of 0.5-1 µg/mL is recommended using extracts of HEK-293T cells expressing recombinant human synapsin II, mouse brain extract (S1 fraction), and rat PC12 cell lysate.
Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

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3. Südhof, T.C., et al., *Science*, **245**, 1474-1480 (1989).
4. Ferreira, A., et al., *Mol. Med.*, **4**, 22-28 (1998).
5. Nielander, H.B., et al., *Eur. J. Neurosci.*, **9**, 2712-2722 (1997).
6. Chen, Q., et al., *Am. J. Hum. Genet.*, **75**, 873-877 (2004).

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