

SYP (C-20): sc-7568



The Power to Question

BACKGROUND

Synaptic vesicles participate in a cycle of fusion with the plasma membrane and reformation by endocytosis. Synaptic vesicle protein synaptophysin (SYP) is targeted to early endosomes in transfected fibroblasts and in neuroendocrine cells. SYP is an N-glycosylated intergral membrane protein found in neurons and endocrine cells that associates into hexamers to form a large conductance channel. SYP contains four transmembrane domains and may function as a gap junction-like channel. Membrane cholesterol specifically interacts with SYP to play a role in vesicle formation. Synaptobrevin (VAMP) also binds to SYP and the resultant complex is upregulated during neuronal development, but is absent in exocytosis fusion complex. Thus, the synaptophysin-synaptobrevin complex is not essential for exocytosis, but rather provides a pool of synaptobrevin for exocytosis. In addition, the tail domain of brain myosin V also forms a stable complex with synaptobrevin II and SYP, and this complex is disassembled upon the depolarization-induced entry of Ca²⁺ into intact nerve endings.

CHROMOSOMAL LOCATION

Genetic locus: SYP (human) mapping to Xp11.23; Syp (mouse) mapping to X A1.1.

SOURCE

SYP (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of SYP of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7568 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SYP (C-20) is recommended for detection of synaptophysin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SYP siRNA (h): sc-36597, SYP siRNA (m): sc-36596, SYP shRNA Plasmid (h): sc-36597-SH, SYP shRNA Plasmid (m): sc-36596-SH, SYP shRNA (h) Lentiviral Particles: sc-36597-V and SYP shRNA (m) Lentiviral Particles: sc-36596-V.

Molecular Weight of SYP: 38-48 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, mouse brain extract: sc-2253 or rat brain extract: sc-2392.

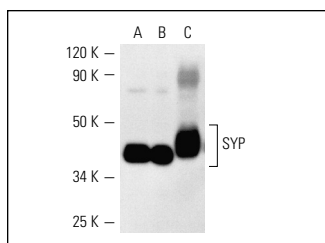
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

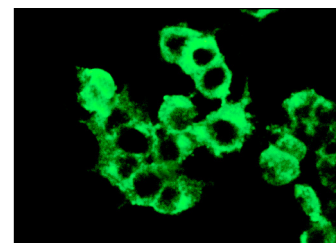
RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



SYP (C-20): sc-7568. Western blot analysis of SYP expression in mouse (A) and rat (B) brain extracts and PC-12 (C) whole cell lysate.



SYP (C-20): sc-7568. Immunofluorescence staining of methanol-fixed PC-12 cells showing cytoplasmic and membrane localization.

SELECT PRODUCT CITATIONS

- Trinidad, J.C., et al. 2005. Phosphorylation state of postsynaptic density proteins. *J. Neurochem.* 92: 1306-1316.
- Gingras, J., et al. 2005. Agrin becomes concentrated at neuroeffector junctions in developing rodent urinary bladder. *Cell Tissue Res.* 320: 115-125.
- Maas, C., et al. 2006. Neuronal cotransport of glycine receptor and the scaffold protein gephyrin. *J. Cell Biol.* 172: 441-451.
- Sytnyk, V., et al. 2006. NCAM promotes assembly and activity-dependent remodeling of the postsynaptic signaling complex. *J. Cell Biol.* 174: 1071-1085.
- Trinidad, J.C., et al. 2006. Comprehensive identification of phosphorylation sites in postsynaptic density preparations. *Mol. Cell. Proteomics* 5: 914-922.
- Leshchyn'ska, I., et al. 2006. The adhesion molecule CHL1 regulates uncoating of clathrin-coated synaptic vesicles. *Neuron* 52: 1011-2510.
- Hong, M.C., et al. 2009. ApRab3, a biosynthetic Rab protein, accumulates on the maturing phagosomes and symbiosomes in the tropical sea anemone, *Aiptasia pulchella*. *Comp. Biochem. Physiol. B, Biochem. Mol. Biol.* 152: 249-259.
- Capetian, P., et al. 2009. Histological findings on fetal striatal grafts in a Huntington's disease patient early after transplantation. *Neuroscience* 160: 661-675.
- Herde, M.K., et al. 2010. Developmental expression of the actin depolymerizing factor ADF in the mouse inner ear and spiral ganglia. *J. Comp. Neurol.* 518: 1724-1741.

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