

# SYP (N-19): sc-7569

## 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 integral 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  $Ca^{2+}$  into intact nerve endings.

## CHROMOSOMAL LOCATION

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

## SOURCE

SYP (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-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-7569 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

SYP (N-19) is recommended for detection of SYP 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SYP (N-19) is also recommended for detection of SYP in additional species, including equine, bovine and porcine.

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.

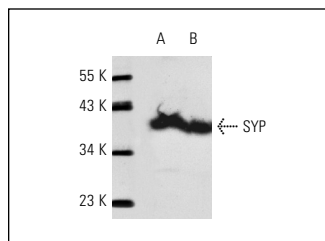
Molecular Weight of SYP: 38-48 kDa.

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

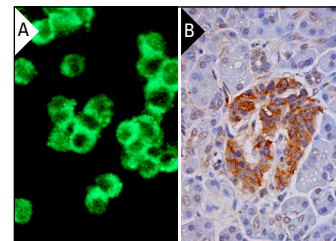
## STORAGE

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

## DATA



SYP (N-19): sc-7569. Western blot analysis of SYP expression in rat (A) and mouse (B) brain extracts.



SYP (N-19): sc-7569. Immunofluorescence staining of methanol-fixed PC-12 cells showing cytoplasmic and membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing weak nuclear staining of exocrine glandular cells and strong cytoplasmic staining of Islets of Langerhans (B).

## SELECT PRODUCT CITATIONS

1. Gross, B.S., et al. 1999. Evidence that phospholipase C $\gamma$ 2 interacts with SLP-76, Syk, Lyn, LAT and the Fc receptor  $\gamma$ -chain after stimulation of the collagen receptor glycoprotein VI in human platelets. *Eur. J. Biochem.* 263: 612-623.
2. 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.
3. Zhao, Y., et al. 2011. Progesterone influences postsynaptic synaptogenesis in the CA1 region of the hippocampus in rats. *Synapse* 65: 880-891.
4. Zhao, J., et al. 2014. Evaluation of ultrasound-processed rapid cell blocks in the cytopathologic diagnosis of cavity fluids. *Acta Cytol.* 58: 182-191.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **SYP (D-4): sc-17750** or **SYP (H-8): sc-55507**, our highly recommended monoclonal alternatives to SYP (N-19). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **SYP (D-4): sc-17750**.