



# p-SYP (Tyr 81): sc-130606

## 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<sup>2+</sup> into intact nerve endings.

## REFERENCES

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4. Leimer, U., Franke, W.W. and Leube, R.E. 1996. Synthesis of the mammalian synaptic vesicle protein synaptophysin in insect cells: a model for vesicle biogenesis. *Exp. Cell Res.* 224: 88-95.
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7. Huttner, W.B. and Schmidt, A. 2000. Lipids, lipid modification and lipid-protein interaction in membrane budding and fission—insights from the roles of endophilin A1 and synaptophysin in synaptic vesicle endocytosis. *Curr. Opin. Neurobiol.* 10: 543-551.

## CHROMOSOMAL LOCATION

Genetic locus: SYP (human) mapping to Xp11.23.

## 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.

## SOURCE

p-SYP (Tyr 81) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Tyr 81 of SYP of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

p-SYP (Tyr 81) is recommended for detection of Tyr 81 phosphorylated SYP of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) 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 shRNA Plasmid (h): sc-36597-SH and SYP shRNA (h) Lentiviral Particles: sc-36597-V.

Molecular Weight of p-SYP: 38 kDa.

Molecular Weight of p-SYP in human brain tissue: 48 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) and Western Blotting Luminol Reagent: sc-2048.

## PROTOCOLS

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