

# Synaptojanin 1 (26): sc-136087

## BACKGROUND

The inositol polyphosphate 5-phosphatases selectively remove the phosphate from the 5-position of various phosphatidylinositols, which generate second messengers in response to extracellular signals. Synaptojanins are characterized by an N-terminal SAC1-like sequence, a central 5-phosphate domain, and a unique C-terminal sequence and have been shown to use phosphatidylinositol 4,5-bisphosphate as a substrate. Synaptojanins exist as two isoforms, Synaptojanin 1 and 2, which differ in the C-terminal domain, and each isoform has multiple variants produced by alternative splicing. Synaptojanin 1 is expressed as two major forms: the shorter is found in brain while the longer is expressed in peripheral tissues. Eight splice variants of Synaptojanin 2 have been detected, including a brain specific isoform. Synaptojanins are thought to participate in the endocytosis of synaptic vesicles and the regulation of the actin cytoskeleton.

## REFERENCES

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2. Nemoto, Y., et al. 1997. Synaptojanin 2, a novel Synaptojanin isoform with a distinct targeting domain and expression pattern. *J. Biol. Chem.* 272: 30817-30821.
3. Zhang, X. and Majerus, P.W. 1998. Phosphatidylinositol signalling reactions. *Semin. Cell Dev. Biol.* 9: 153-160.
4. Erneux, C., et al. 1998. The diversity and possible functions of the inositol polyphosphate 5-phosphatases. *Biochim. Biophys. Acta* 1436: 185-199.
5. Khvotchev, M. and Sudhof, T.C. 1998. Developmentally regulated alternative splicing in a novel Synaptojanin. *J. Biol. Chem.* 273: 2306-2311.
6. Seet, L.F., et al. 1998. Molecular cloning of multiple isoforms of Synaptojanin 2 and assignment of the gene to mouse chromosome 17A2-3.1. *Biochem. Biophys. Res. Commun.* 247: 116-122.
7. Takenawa, T., et al. 1999. Regulation of phosphatidylinositol 4,5-bisphosphate levels and its roles in cytoskeletal re-organization and malignant transformation. *Chem. Phys. Lipids* 98: 13-22.
8. Haffner, C., et al. 2000. Direct interaction of the 170 kDa isoform of Synaptojanin 1 with clathrin and with the clathrin adaptor AP-2. *Curr. Biol.* 10: 471-474.

## CHROMOSOMAL LOCATION

Genetic locus: Synj1 (mouse) mapping to 16 C3.3.

## SOURCE

Synaptojanin 1 (26) is a mouse monoclonal antibody raised against amino acids 1145-1259 of Synaptojanin 1 of rat origin.

## PRODUCT

Each vial contains 50 µg IgG<sub>1</sub> in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

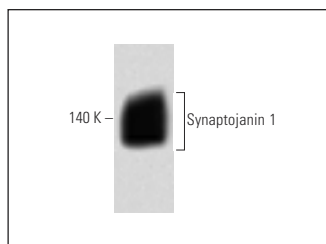
Synaptojanin 1 (26) is recommended for detection of Synaptojanin 1 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Synaptojanin 1 siRNA (m): sc-153973, Synaptojanin 1 shRNA Plasmid (m): sc-153973-SH and Synaptojanin 1 shRNA (m) Lentiviral Particles: sc-153973-V.

Molecular Weight of Synaptojanin 1: 145/170 kDa.

Positive Controls: rat brain extract: sc-2392, rat cerebrum tissue extract or EOC 20 whole cell lysate: sc-364187.

## DATA



Synaptojanin 1 (26): sc-136087. Western blot analysis of Synaptojanin 1 expression in rat cerebrum tissue extract.

## 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. Not for resale.

## PROTOCOLS

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