

Synaptojanin 2 (m): 293T Lysate: sc-123864

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

1. Mitchell, C.A., et al. 1996. Regulation of second messengers by the inositol polyphosphate 5-phosphatases. *Biochem. Soc. Trans.* 24: 994-1000.
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: 116-22.
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: Synj2 (mouse) mapping to 17 A1.

PRODUCT

Synaptojanin 2 (m): 293T Lysate represents a lysate of mouse Synaptojanin 2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

Synaptojanin 2 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Synaptojanin 2 antibodies. Recommended use: 10-20 µl per lane.

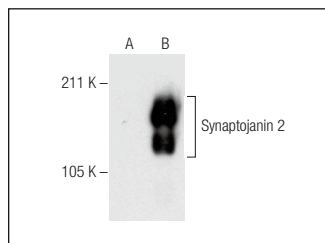
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Synaptojanin 2 (E-1): sc-390354 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse Synaptojanin 2 expression in Synaptojanin 2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

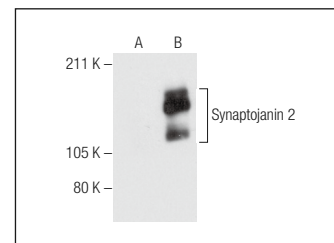
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



Synaptojanin 2 (E-1): sc-390354. Western blot analysis of Synaptojanin 2 expression in non-transfected: sc-117752 (A) and mouse Synaptojanin 2 transfected: sc-123864 (B) 293T whole cell lysates.



Synaptojanin 2 (D-11): sc-390247. Western blot analysis of Synaptojanin 2 expression in non-transfected: sc-117752 (A) and mouse Synaptojanin 2 transfected: sc-123864 (B) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.