

Synaptojanin 2 (E-1): sc-390354

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., et al. 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., et al. 1998. Developmentally regulated alternative splicing in a novel synaptojanin. *J. Biol. Chem.* 273: 2306-2311.

CHROMOSOMAL LOCATION

Genetic locus: SYNJ2 (human) mapping to 6q25.3; Synj2 (mouse) mapping to 17 A1.

SOURCE

Synaptojanin 2 (E-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1118-1135 at the C-terminus of Synaptojanin 2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-390354 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

Synaptojanin 2 (E-1) is recommended for detection of all Synaptojanin 2 isoforms (α - ζ) of mouse origin and Synaptojanin 2 of human and rat origin by Western Blotting (starting dilution 1:100, 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).

Synaptojanin 2 (E-1) is also recommended for detection of Synaptojanin 2 in additional species, including bovine and porcine.

Suitable for use as control antibody for Synaptojanin 2 siRNA (h): sc-39080, Synaptojanin 2 siRNA (m): sc-39081, Synaptojanin 2 shRNA Plasmid (h): sc-39080-SH, Synaptojanin 2 shRNA Plasmid (m): sc-39081-SH, Synaptojanin 2 shRNA (h) Lentiviral Particles: sc-39080-V and Synaptojanin 2 shRNA (m) Lentiviral Particles: sc-39081-V.

Molecular Weight of Synaptojanin 2 splice variants: 160/165 kDa.

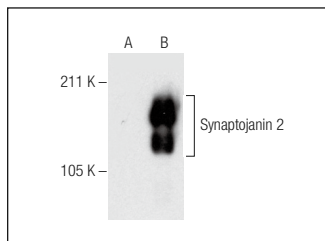
Positive Controls: Synaptojanin 2 (m): 293T Lysate: sc-123864.

RECOMMENDED SUPPORT REAGENTS

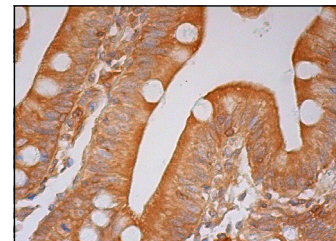
To ensure optimal results, the following support reagents are recommended:

- 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.
- 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.
- 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

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 (E-1): sc-390354. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells.

RESEARCH USE

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