SANTA CRUZ BIOTECHNOLOGY, INC.

Synaptojanin 2 (V-20): sc-12133

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 (V-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Synaptojanin 2 of mouse 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-12134 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

Synaptojanin 2 (V-20) is recommended for detection of rat and human Synaptojanin 2 and mouse Synaptojanin 2 α and β isoforms origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

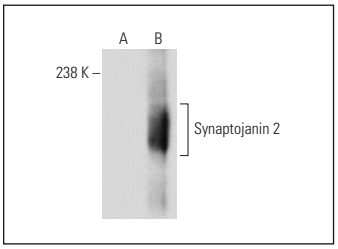
Synaptojanin 2 (V-20) is also recommended for detection of Synaptojanin 2 in additional species, including equine, canine, bovine and porcine.

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 or mouse liver extract: sc-2256.

DATA



Synaptojanin 2 (V-20): sc-12133. 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.

SELECT PRODUCT CITATIONS

1. Cestra, G., et al. 2005. The Abl/Arg substrate ArgBP2/nArgBP2 coordinates the function of multiple regulatory mechanisms converging on the actin cytoskeleton. Proc. Natl. Acad. Sci. USA 102: 1731-1736.

PROTOCOLS

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