SANTA CRUZ BIOTECHNOLOGY, INC.

Synaptoporin (C-9): sc-376761

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Synaptic vesicle recycling involves numerous proteins that contribute to the formation and trafficking of the SNARE complexes throughout the cell. Synaptoporin, also designated synaptophysin 2, is an integral membrane protein of small synaptic vesicles that belongs to the synaptophysin/synaptobrevin family. Synaptoporin is highly homologus to synaptophysin 1 and both Synaptoporin and synaptophysin 1 contain four transmembrane domains and a short cytoplasmic tail. The Synaptoporin protein also contains one MARVEL domain, a membrane-associating domain found in lipid-associating proteins, and displays calcium-binding activity which may be localized to its cytoplasmic tail. Syntaphilin, synaptophysin and Synaptoporin regulate the formation of the vesicles by competing with components of the SNARE complexes to respectively inhibit either the assembly or the secretion of the synaptic vesicles.

REFERENCES

1. Leube, R.E., et al. 1987. Synaptophysin: molecular organization and mRNA expression as determined from cloned cDNA. EMBO J. 6: 3261-3268.
2. Singec, I., et al. 2002. Synaptic vesicle protein Synaptoporin is differently expressed by subpopulations of mouse hippocampal neurons. J. Comp. Neurol. 452: 139-153.
3. Jinno, S. and Kosaka, T. 2003. Heterogeneous expression of the cholecystokinin-like immunoreactivity in the mouse hippocampus, with special reference to the dorsoventral difference. Neuroscience 122: 869-884.

CHROMOSOMAL LOCATION

Genetic locus: SYNPR (human) mapping to 3p14.2; Synpr (mouse) mapping to 14 A1.

SOURCE

Synaptoporin (C-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 189-223 within an internal region of Synaptoporin of human origin.

PRODUCT

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

Synaptoporin (C-9) is available conjugated to agarose (sc-376761 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376761 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376761 PE), fluorescein (sc-376761 FITC), Alexa Fluor® 488 (sc-376761 AF488), Alexa Fluor® 546 (sc-376761 AF546), Alexa Fluor® 594 (sc-376761 AF594) or Alexa Fluor® 647 (sc-376761 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376761 AF680) or Alexa Fluor® 790 (sc-376761 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376761 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Synaptoporin (C-9) is recommended for detection of Synaptoporin of mouse, rat and human 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).

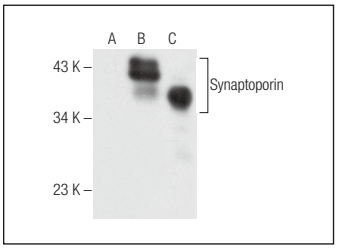
Synaptoporin (C-9) is also recommended for detection of Synaptoporin in additional species, including equine, canine and porcine.

Suitable for use as control antibody for Synaptoporin siRNA (h): sc-61626, Synaptoporin siRNA (m): sc-61627, Synaptoporin shRNA Plasmid (h): sc-61626-SH, Synaptoporin shRNA Plasmid (m): sc-61627-SH, Synaptoporin shRNA (h) Lentiviral Particles: sc-61626-V and Synaptoporin shRNA (m) Lentiviral Particles: sc-61627-V.

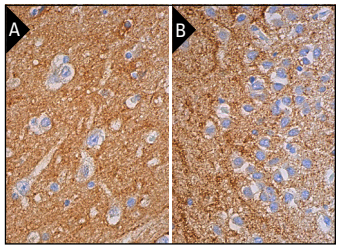
Molecular Weight of Synaptoporin: 37 kDa.

Positive Controls: Synaptoporin (h2): 293T Lysate: sc-178007, mouse brain extract: sc-2253 or rat brain extract: sc-2392.

DATA



Synaptoporin (C-9): sc-376761. Western blot analysis of Synaptoporin expression in non-transfected: sc-117752 (**A**) and human Synaptoporin transfected: sc-178007 (**B**) 293T whole cell lysates and mouse brain tissue extract (**C**).



Synaptoporin (C-9): sc-376761. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex (**A**) and human hippocampus (**B**) tissue showing neuropil staining.

SELECT PRODUCT CITATIONS

1. Shin, S.M., et al. 2021. Piezo2 mechanosensitive ion channel is located to sensory neurons and nonneuronal cells in rat peripheral sensory pathway: implications in pain. Pain 162: 2750-2768.
2. Yokokawa, T., et al. 2023. Altered expression of synaptic proteins and adhesion molecules in the hippocampus and cortex following the onset of diabetes in nonobese diabetic mice. Physiol. Rep. 11: e15673.

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.