

Synaptoporin (Q-12): sc-51214

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 homologous 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. Synaptophysin, 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. 1988. 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.
4. Dai, J., et al. 2003. Cloning and sequence analysis of the human cDNA encoding the Synaptoporin δ , a highly conservative synaptic vesicle protein. *Mol. Biol. Rep.* 30: 185-191.

CHROMOSOMAL LOCATION

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

SOURCE

Synaptoporin (Q-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Synaptoporin of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-51214 P, (100 μ g 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.

PROTOCOLS

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

APPLICATIONS

Synaptoporin (Q-12) is recommended for detection of Synaptoporin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], 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).

Synaptoporin (Q-12) is also recommended for detection of Synaptoporin in additional species, including equine, canine, bovine 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.

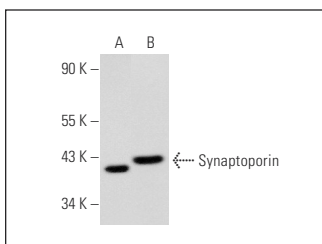
Molecular Weight of Synaptoporin: 37 kDa.

Positive Controls: NCI-H292 whole cell lysate: sc-364179, Hep G2 cell lysate: sc-2227 or rat brain extract: sc-2392.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Synaptoporin (Q-12): sc-51214. Western blot analysis of Synaptoporin expression in NCI-H292 (A) and Hep G2 (B) whole cell lysates.

RESEARCH USE

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