SANTA CRUZ BIOTECHNOLOGY, INC.

Amphiphysin II (N-19): sc-8534

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The Power to Question

BACKGROUND

Amphiphysin is a brain-enriched protein that exhibits N-terminal lipid interaction and functions as a dimer. Amphiphysin contains a membrane bending BAR domain, a middle Clathrin and adaptor binding domain and a C-terminal SH3 domain. In the brain, Amphiphysin I and II form heterodimers that bind to the Clathrin-associated GTPase Dynamin via their SH3 domains. This association is essential for synaptic vesicle recycling in neurons, as it precedes the binding of Dynamin to the Clathrin-coated pits and the subsequent vesicle budding. In other tissues, Amphiphysin may play a key role in other membrane bending and curvature stabilization events. The mammalian Amphiphysins, Amphiphysin I and Amphiphysin II, have similar overall structure. An ubiquitous splice form of Amphiphysin II that does not contain Clathrin or adaptor interactions is highly expressed in muscle tissue and is involved in the formation and stabilization of the T tubule network.

REFERENCES

1. Lichte, B., et al. 1992. Amphiphysin, a novel protein associated with synaptic vesicles. EMBO J. 11: 2521-2530.
2. Yamamoto, R., et al. 1995. Primary structure of human amphiphysin, the dominant autoantigen of paraneoplastic stiff-man syndrome, and mapping of its gene (AMPH) to chromosome 7p13-p14. Hum. Mol. Genet. 4: 265-268.
3. Sakamuro, D., et al. 1996. BIN1 is a novel Myc-interacting protein with features of a tumour suppressor. Nat. Genet. 14: 69-77.
4. Leprince, C., et al. 1997. A new member of the amphiphysin family connecting endocytosis and signal transduction pathways. J. Biol. Chem. 272: 15101-15105.
5. Wigge, P., et al. 1997. Amphiphysin heterodimers: potential role in Clathrin-mediated endocytosis. Mol. Biol. Cell 8: 2004-2015.
6. Wechsler-Reya, R., et al. 1997. Structural analysis of the human BIN1 gene. Evidence for tissue-specific transcriptional regulation and alternate RNA splicing. J. Biol. Chem. 272: 31453-31458.
7. Wechsler-Reya, R., et al. 1997. The putative tumor suppressor BIN1 is a short-lived nuclear phosphoprotein, the localization of which is altered in malignant cells. Cancer Res. 57: 3258-3263.

CHROMOSOMAL LOCATION

Genetic locus: BIN1 (human) mapping to 2q14.3; Bin1 (mouse) mapping to 18 B1.

SOURCE

Amphiphysin II (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Amphiphysin II of human 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-8534 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Amphiphysin II (N-19) is recommended for detection of all Amphiphysin II isoforms of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

Amphiphysin II (N-19) is also recommended for detection of all Amphiphysin II isoforms in additional species, including bovine, porcine and avian.

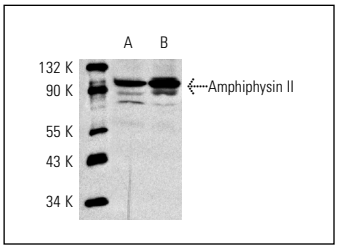
Suitable for use as control antibody for Amphiphysin II siRNA (h): sc-29804, Amphiphysin II siRNA (m): sc-29805, Amphiphysin II shRNA Plasmid (h): sc-29804-SH, Amphiphysin II shRNA Plasmid (m): sc-29805-SH, Amphiphysin II shRNA (h) Lentiviral Particles: sc-29804-V and Amphiphysin II shRNA (m) Lentiviral Particles: sc-29805-V.

Molecular Weight of Amphiphysin II: 90 kDa.

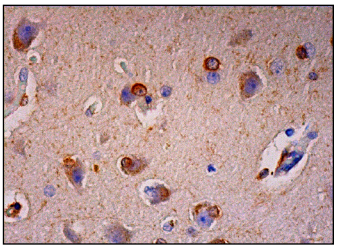
Molecular Weight of BIN1 splice variant of Amphiphysin II: 70 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, H4 cell lysate: sc-2408 or Sol8 cell lysate: sc-2249.

DATA



Amphiphysin II (N-19): sc-8534. Western blot analysis of Amphiphysin II expression in IMR-32 (**A**) and H4 (**B**) whole cell lysates.



Amphiphysin II (N-19): sc-8534. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing cytoplasmic staining of neuronal cells and glial cells.

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.

PROTOCOLS

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