SANTA CRUZ BIOTECHNOLOGY, INC.

Amphiphysin I (15): sc-135830

SANTA CRUZ BIOTECHNOLOGY

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. Sakamuro, D., et al. 1996. BIN1 is a novel Myc-interacting protein with features of a tumour suppressor. Nat. Genet. 14: 69-77.
3. 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.
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. 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.
6. Wigge, P., et al. 1997. Amphiphysin heterodimers: potential role in Clathrin-mediated endocytosis. Mol. Biol. Cell 8: 2004-2015.
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: AMPH (human) mapping to 7p14.1; Amph (mouse) mapping to 13 A2.

SOURCE

Amphiphysin I (15) is a mouse monoclonal antibody raised against amino acids 258-414 of Amphiphysin I of human origin.

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. Not for resale.

PRODUCT

Each vial contains 50 µg IgG_1 in 500 µl of PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol and 0.04% stabilizer protein.

APPLICATIONS

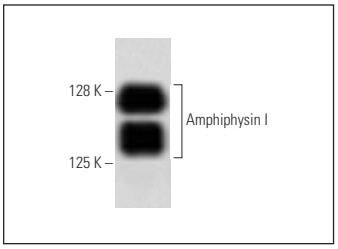
Amphiphysin I (15) is recommended for detection of Amphiphysin I of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500); not recommended for immunoprecipitation.

Suitable for use as control antibody for Amphiphysin I siRNA (h): sc-29671, Amphiphysin I siRNA (m): sc-29672, Amphiphysin I shRNA Plasmid (h): sc-29671-SH, Amphiphysin I shRNA Plasmid (m): sc-29672-SH, Amphiphysin I shRNA (h) Lentiviral Particles: sc-29671-V and Amphiphysin I shRNA (m) Lentiviral Particles: sc-29672-V.

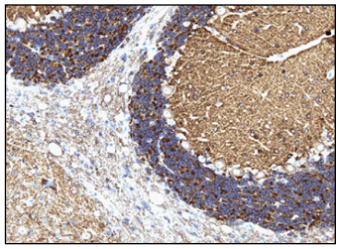
Molecular Weight of Amphiphysin I: 128 kDa.

Positive Controls: rat brain extract: sc-2392, H4 cell lysate: sc-2408 or F9 cell lysate: sc-2245.

DATA



Amphiphysin I (15): sc-135830. Western blot analysis of Amphiphysin I expression in rat cerebrum tissue extract.



Amphiphysin I (15): sc-135830. Immunoperoxidase staining of formalin-fixed, paraffin-embedded rat brain tissue showing cytoplasmic staining.

PROTOCOLS

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