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. A 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


CHROMOSOMAL LOCATION

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

SOURCE

Amphiphysin II (99D) is a mouse monoclonal antibody derived from exon 13 of Amphiphysin II of human origin.

PRODUCT

Each vial contains 200 µg IgG2b in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

Amphiphysin II (99D) is recommended for detection of Amphiphysin II splice variants 1-10 of mouse, rat, human and avian 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 and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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 Amphiphysin II BIN1 splice variant: 70 kDa.

Positive Controls: Amphiphysin II (h2): 293T Lysate: sc-176827, HeLa whole cell lysate: sc-2200 or Sol8 cell lysate: sc-2249.

DATA

Amphiphysin II (99D): sc-13575. Western blot analysis of Amphiphysin II expression in non-transfected 293T: sc-117752 (A), truncated human Amphiphysin II transfected 293T: sc-176827 (B) and HeLa (C) whole cell lysates.

Amphiphysin II (99D): sc-13575. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lung tumor showing nuclear and cytoplasmic staining.

SELECT PRODUCT CITATIONS


STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.