SANTA CRUZ BIOTECHNOLOGY, INC.

Neurabin-II (A-20): sc-14774

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Neurabin-II, also called spinophilin, interacts with actin and PP-1 in dendritic spines of the central nervous system. The gene encoding human Neurabin-II maps to chromosome 17q21.33. The structural characteristics of Neurabin-II include one F-actin binding domain at the N-terminal region, a predicted coiled-coil struture at the C-terminal, one PDZ domain at the middle region, and a domain known to interact with transmembrane proteins. Neurabin-II bundles actin fliaments *in vitro. In vivo,* spinophilin localizes to the cortical sites of actin filaments and to the sites of active membrane remodelling. Neurabin-II also forms a complex with the catalytic subunit of PP1 and modulates PP1 enzymatic activity *in vitro*. Neurabin-II localizes to the head of dendritic spines and aids in the ability of PP-1 to regulate the activity of α-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid (AMPA) and N-methyl-D-asparate (NMDA) receptors. In this manner, Neurabin-II modulates both glutamatergic synaptic transmission and dendritic morphology. Synergistic interactions between spinophilin and human tumor supressor ARF suggest a role for Neurabin-II in cell growth.

CHROMOSOMAL LOCATION

Genetic locus: PPP1R9B (human) mapping to 17q21.33; Ppp1r9b (mouse) mapping to 11 D.

SOURCE

Neurabin-II (A-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Neurabin-II of rat 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-14774 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Neurabin-II (A-20) is recommended for detection of Neurabin-II 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Neurabin-II (A-20) is also recommended for detection of Neurabin-II in additional species, including canine.

Suitable for use as control antibody for Neurabin-II siRNA (h): sc-43962, Neurabin-II siRNA (m): sc-149924, Neurabin-II shRNA Plasmid (h): sc-43962-SH, Neurabin-II shRNA Plasmid (m): sc-149924-SH, Neurabin-II shRNA (h) Lentiviral Particles: sc-43962-V and Neurabin-II shRNA (m) Lentiviral Particles: sc-149924-V.

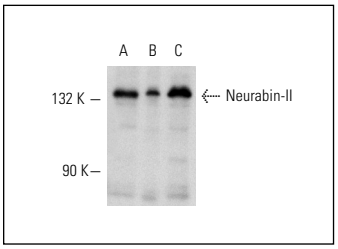
Molecular Weight of Neurabin-II: 140 kDa.

Positive Controls: rat brain extract: sc-2392, mouse brain extract: sc-2253 or mouse cerebellum extract: sc-2403.

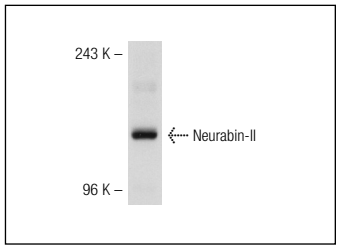
RECOMMENDED SECONDARY REAGENTS

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



Neurabin-II (A-20): sc-14774. Western blot analysis of Neurabin-II expression in mouse cerebellum (**A**), rat brain (**B**) and mouse brain (**C**) extracts.



Neurabin-II (A-20): sc-14774. Western blot analysis of Neurabin-II expression in IMR-32 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Lymperopoulos, A., et al. 2007. Adrenal GRK 2 upregulation mediates sympathetic overdrive in heart failure. Nat. Med. 13: 315-323.
2. Baucum, A.J., et al. 2010. Identification and validation of novel spinophilin-associated proteins in rodent striatum using an enhanced *ex vivo* shotgun proteomics approach. Mol. Cell. Proteomics 9: 1243-1259.
3. Fourla, D.D., et al. 2012. Selective interactions of spinophilin with the C-terminal domains of the δ- and μ-opioid receptors and G proteins differentially modulate opioid receptor signaling. Cell. Signal. 24: 2315-2328.
4. Ma, P., et al. 2012. A newly identified complex of spinophilin and the tyrosine phosphatase, SHP-1, modulates platelet activation by regulating G protein-dependent signaling. Blood 119: 1935-1945.

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.