

# Neurabin-I (S-17): sc-23496

## BACKGROUND

Brain-specific Neurabin-I (neural tissue-specific F-Actin binding protein I) is highly concentrated in the synapse of developed neurons; it localizes in the growth cone lamellipodia during neuronal development. Suppression of endogenous Neurabin in rat hippocampal neurons inhibits neurite formation. Neurabin-I recruits active PP1 via a PP1-docking sequence; mutation of the PP1-binding motif halts filopodia and restores stress fibers in Neurabin-I expressing cells. Neurabin-II (Spinophilin) is ubiquitously expressed but is abundantly expressed in brain. Neurabin-II localizes to neuronal dendritic spines, which are the specialized protrusions from dendritic shafts that receive most of the excitatory input in the CNS. Neurabin-II may regulate dendritic spine properties as Neurabin-III(-) mice have increased spine density during development *in vitro* and exhibit altered filopodial formation in cultured cells. Neurabin may also play a role in glutamatergic transmission as Neurabin-III(-) mice exhibit reduced long-term depression and resistance to kainate-induced seizures and neuronal apoptosis. Neurabin-II complexes with the catalytic subunit of protein phosphatase 1 (PP1) *in vitro*, thus modulating the activity of PP1.

## REFERENCES

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3. McAvoy, T., Allen, P.B., Obaishi, H., Nakanishi, H., Takai, Y., Greengard, P., Nairn, A.C. and Hemmings, H.C., Jr. 1999. Regulation of Neurabin-I interaction with protein phosphatase 1 by phosphorylation. *Biochemistry* 38: 12943-12949.
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## CHROMOSOMAL LOCATION

Genetic locus: PPP1R9A (human) mapping to 7q21.3; Ppp1r9a (mouse) mapping to 6 A1.

## SOURCE

Neurabin-I (S-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Neurabin-I of human origin.

## RESEARCH USE

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

## 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-23496 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Neurabin-I (S-17) is recommended for detection of Neurabin-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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Neurabin-I (S-17) is also recommended for detection of Neurabin-I in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Neurabin-I siRNA (h): sc-45982, Neurabin-I siRNA (m): sc-45983, Neurabin-I shRNA Plasmid (h): sc-45982-SH, Neurabin-I shRNA Plasmid (m): sc-45983-SH, Neurabin-I shRNA (h) Lentiviral Particles: sc-45982-V and Neurabin-I shRNA (m) Lentiviral Particles: sc-45983-V.

Molecular Weight of Neurabin-I: 180 kDa.

Positive Controls: Mouse brain extract: sc-2253 or PC-12 cell lysate: sc-2250.

## 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) 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.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **Neurabin-I (D-4): sc-377407** or **Neurabin-I (52): sc-136327**, our highly recommended monoclonal alternatives to Neurabin-I (S-17).