10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Neurabin 2 Rabbit pAb

Catalog # AP98101

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q96SB3
Other Accession	Q96SB3
Reactivity	Rat, Mouse
Predicted	Pig, Human, Dog, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	89334
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Spinophilin/Neurabin 2
Epitope Specificity	358-460/815
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Contains 1 PDZ (DHR) domain.
SUBUNIT	Interacts with DCLK2 (By similarity). Possibly exists as a homodimer, homotrimer or a homotetramer. Interacts with F-actin, PPP1CA, neurabin-1, TGN38 and D(2) dopamine receptor. Interacts with RGS1, RGS2, RGS4, RGS19 and ADRA1B, ADRA2A, ADRA2B, ADRA2C, CDKN2A, PPP1R2, RASGFR1 and TIAM1. Interacts (via C-terminus) with SPATA13 (via C-terminal tail).
Post-translational modifications	Stimulation of D1 (but not D2) dopamine receptors induces Ser-94 phosphorylation. Dephosphorylation of Ser-94 is mediated mainly by PP1 and to a lesser extent by PP2A. Phosphorylation of spinophilin disrupts its association with F-actin, but does not affect its binding to PP1.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Neurabin-II, also called spinophilin, interacts with actin and PP-1 in dendritic spines of the central nervous system (1,2). The gene encoding human neurabin-II maps to chromosome 17q21-q22 (2). 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 (1). Neurabin-II bundles actin fliaments in vitro (1). In vivo, spinophilin localizes to the cortical sites of actin filaments and to the sites of active membrane remodelling (4). Neurabin-II also forms a complex with the catalytic subunit of PP1 and modulates PP1 enzymatic activity in vitro (2). Neurabin-II localizes to the head of dendritic spines (2) and aids in the ability of PP-1 to regulate the activity of a-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid (AMPA) and N-methyl-D-asparate (NMDA) receptors (3). In this manner, neurabin-II modulates both glutamatergic synaptic transmission and dendritic morphology (3). Synergistic interactions between spinophilin and human tumor supressor ARF suggest a role for neurabin-II in cell growth (5).

Additional Information

Gene ID	84687
Other Names	PPP1R6; PPP1R9; SPINO; Spn; SPL; Neb2; NEB2_HUMAN; PPP1R9B; Neurabin-II; Protein phosphatase 1 regulatory subunit 9B; Spinophilin; NEB2_MOUSE; NEB2_RAT; Neural tissue-specific F-actin-binding protein II; PP1bp134; p130; protein phosphatase 1, regulatory subunit 9B, spinophilin; protein phosphatase 1, regulatory (inhibitor) subunit 9B; protein phosphatase 1, regulatory subunit 9B; Neurabin-2
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	PPP1R9B
Synonyms	PPP1R6
Function	Seems to act as a scaffold protein in multiple signaling pathways. Modulates excitatory synaptic transmission and dendritic spine morphology. Binds to actin filaments (F-actin) and shows cross- linking activity. Binds along the sides of the F-actin. May play an important role in linking the actin cytoskeleton to the plasma membrane at the synaptic junction. Believed to target protein phosphatase 1/PP1 to dendritic spines, which are rich in F-actin, and regulates its specificity toward ion channels and other substrates, such as AMPA-type and NMDA-type glutamate receptors. Plays a role in regulation of G protein-coupled receptor signaling, including dopamine D2 receptors and alpha-adrenergic receptors. May establish a signaling complex for dopaminergic neurotransmission through D2 receptors by linking receptors downstream signaling molecules and the actin cytoskeleton. Binds to ADRA1B and RGS2 and mediates regulation of ADRA1B signaling. May confer to Rac signaling specificity by binding to both, RacGEFs and Rac effector proteins. Probably regulates p70 S6 kinase activity by forming a complex with TIAM1 (By similarity). Required for hepatocyte growth factor (HGF)-induced cell migration.
Cellular Location	Cytoplasm, cytoskeleton. Nucleus. Cell projection, dendritic spine {ECO:0000250|UniProtKB:O35274}. Postsynaptic density {ECO:0000250|UniProtKB:O35274}. Synapse. Cell junction, adherens junction. Cytoplasm. Cell membrane. Cell projection, lamellipodium. Cell projection, filopodium. Cell projection, ruffle membrane. Note=Enriched at synapse and cadherin-based cell-cell adhesion sites. In neurons, both cytosolic and membrane-associated, and highly enriched in the postsynaptic density apposed to exitatory synapses. Colocalizes with PPP1R2 at actin-rich adherens junctions in epithelial cells and in dendritic spines (By similarity). Accumulates in the lamellipodium, filopodium and ruffle membrane in response to hepatocyte growth factor (HGF) treatment.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.