

neurexin I (P-15): sc-14334

BACKGROUND

Neurexins comprise a family of neuronal cell surface proteins, which include neurexin I (NRXN1), neurexin II (NRXN2), neurexin III (NRXN3) and Caspr (neurexin IV). Neurexins I-III are expressed as α and β isoforms. The α isoforms are made of three cassettes, which contain two LNS (Laminin A, neurexins, sex hormone-binding)-domains separated by EGF domains, followed by a transmembrane region and a 55 amino acid cytoplasmic C-terminal. The α isoforms bind to neurexophilins at the second LNS site and to the excitatory neurotoxin α -latrotoxin. The β isoforms have only one LNS-domain, bind to neuroligins, and play a role in the formation and remodeling of synapses. Caspr (for Contactin-associated protein 1, also designated Paranodin in mouse), contains an extracellular domain similar to the other three neurexins, and binds to the surface glycoprotein Contactin. Caspr and the closely related Caspr2, a mammalian homolog of *Drosophila* neurexin IV (Nrx-IV), demarcate distinct subdomains in myelinated axons. Specifically, Caspr exists at the paranodal junctions, while Caspr2 colocalizes with Shaker-like K⁺ channels in the juxtaparanodal region. Caspr may play a role in the communication of glial cells and neurons during development.

REFERENCES

1. Ichtchenko, K., et al. 1996. Structures, alternative splicing, and Neurexin binding of multiple Neuroligins. *J. Biol. Chem.* 271: 2676-2682.
2. Nguyen, T., et al. 1997. Binding properties of Neuroligin 1, and Neurexin 1 β reveal function as heterophilic cell adhesion molecules. *J. Biol. Chem.* 272: 26032-26039.
3. Peles, E., et al. 1997. Identification of a novel contactin-associated transmembrane receptor with multiple domains implicated in protein-protein interactions. *EMBO J.* 16: 978-988.

CHROMOSOMAL LOCATION

Genetic locus: NRXN1 (human) mapping to 2p16.3; Nrnx1 (mouse) mapping to 17 E5.

SOURCE

neurexin I (P-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of neurexin I of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-14334 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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 or our catalog for detailed protocols and support products.

APPLICATIONS

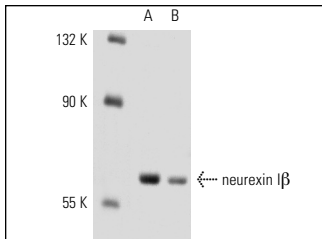
neurexin I (P-15) is recommended for detection of neurexin I α and neurexin I β of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

neurexin I (P-15) is also recommended for detection of neurexin I α and neurexin I β in additional species, including equine, canine, bovine, porcine and avian.

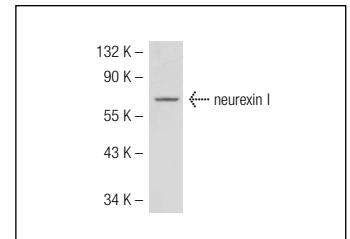
Suitable for use as control antibody for neurexin I siRNA (h): sc-42050, neurexin I siRNA (m): sc-42051, neurexin I shRNA Plasmid (h): sc-42050-SH, neurexin I shRNA Plasmid (m): sc-42051-SH, neurexin I shRNA (h) Lentiviral Particles: sc-42050-V and neurexin I shRNA (m) Lentiviral Particles: sc-42051-V.

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

DATA



neurexin I (P-15): sc-14334. Western blot analysis of neurexin I β expression in rat brain (A) and mouse brain (B) tissue extracts.



neurexin I (P-15): sc-14334. Western blot analysis of neurexin I expression in rat brain tissue extract.

SELECT PRODUCT CITATIONS

1. Kim, H.G., et al. 2008. Disruption of neurexin I associated with autism spectrum disorder. *Am. J. Hum. Genet.* 82: 199-207.
2. Suckow, A.T., et al. 2008. Expression of neurexin, neuroligin, and their cytoplasmic binding partners in the pancreatic β -cells and the involvement of neuroligin in Insulin secretion. *Endocrinology* 149: 6006-6017.
3. Cheng, S.B., et al. 2009. Presynaptic targeting of α 4 β 2 nicotinic acetylcholine receptors is regulated by neurexin 1 β . *J. Biol. Chem.* 284: 23251-23259.

RESEARCH USE

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



Try **neurexin I α (17): sc-136001**, our highly recommended monoclonal alternative to neurexin I (P-15).