

neuroigin 2 (D-15): sc-14087

BACKGROUND

Neuroigins are a family of plasma membrane proteins that possess an N-terminal hydrophobic domain, a large esterase homology domain, a single transmembrane region, a short cytoplasmic domain, and an EF-hand binding domain. Members of the neuroigin family include Neuroigin 1, Neuroigin 2 and Neuroigin 3. Neuroigins are expressed in excitatory neuronal synaptic clefts. Neuroigins play a role in the formation and remodeling of CNS synapses by binding to β -neurexins, a family of neuronal cell surface proteins. Neurexin 1 β binds to the EF-hand domain of Neuroigin 1 and requires calcium ion. Neuroigins also bind to PSD-95, which may recruit ion channels and neurotransmitter receptors to the synapses.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: NLGN2 (human) mapping to 17p13.1; Nlgn2 (mouse) mapping to 11 B3.

SOURCE

neuroigin 2 (D-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of neuroigin 2 of rat 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-14087 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

neuroigin 2 (D-15) is recommended for detection of neuroigin 2 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

neuroigin 2 (D-15) is also recommended for detection of neuroigin 2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for neuroigin 2 siRNA (h): sc-42085, neuroigin 2 siRNA (m): sc-42086, neuroigin 2 shRNA Plasmid (h): sc-42085-SH, neuroigin 2 shRNA Plasmid (m): sc-42086-SH, neuroigin 2 shRNA (h) Lentiviral Particles: sc-42085-V and neuroigin 2 shRNA (m) Lentiviral Particles: sc-42086-V.

Molecular Weight of neuroigin 2: 93 kDa.

Positive Controls: BC3H1 cell lysate: sc-2299.

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.

SELECT PRODUCT CITATIONS

1. Graf, E.R., Zhang, X., Jin, S.X., Linhoff, M.W. and Craig, A.M. 2004. Neurexins induce differentiation of GABA and glutamate postsynaptic specializations via neuroigins. *Cell* 119: 1013-1026.
2. Suckow, A.T., Comoletti, D., Waldrop, M.A., Mosedale, M., Egodage, S., Taylor, P. and Chessler, S.D. 2008. Expression of neurexin, neuroigin, and their cytoplasmic binding partners in the pancreatic β -cells and the involvement of neuroigin in Insulin secretion. *Endocrinology* 149: 6006-6017.
3. Rosenberg, M.M., Yang, F., Mohn, J.L., Storer, E.K. and Jacob, M.H. 2010. The postsynaptic adenomatous polyposis coli (APC) multiprotein complex is required for localizing neuroigin and neurexin to neuronal nicotinic synapses *in vivo*. *J. Neurosci.* 30: 11073-11085.

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.