

# neuroigin 3 (G-2): sc-271880

## 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  $\beta$ -neurexins, a family of neuronal cell surface proteins. Neurexin 1 $\beta$  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.

## CHROMOSOMAL LOCATION

Genetic locus: NLGN3 (human) mapping to Xq13.1; Nlgn3 (mouse) mapping to X D.

## SOURCE

neuroigin 3 (G-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 119-149 within an internal region of neuroigin 3 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271880 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

neuroigin 3 (G-2) is recommended for detection of neuroigin 3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

neuroigin 3 (G-2) is also recommended for detection of neuroigin 3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for neuroigin 3 siRNA (h): sc-42087, neuroigin 3 siRNA (m): sc-42088, neuroigin 3 shRNA Plasmid (h): sc-42087-SH, neuroigin 3 shRNA Plasmid (m): sc-42088-SH, neuroigin 3 shRNA (h) Lentiviral Particles: sc-42087-V and neuroigin 3 shRNA (m) Lentiviral Particles: sc-42088-V.

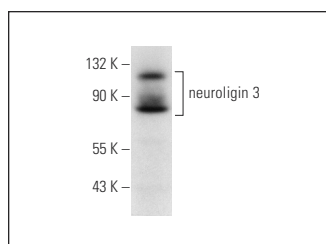
Molecular Weight of neuroigin 3: 88 kDa.

Positive Controls: BC<sub>3</sub>H1 cell lysate: sc-2299.

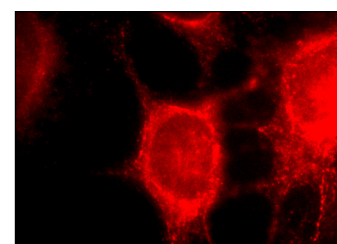
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



neuroigin 3 (G-2): sc-271880. Western blot analysis of neuroigin 3 expression in BC<sub>3</sub>H1 whole cell lysate.



neuroigin 3 (G-2): sc-271880. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

- Shen, C., et al. 2015. Novel interactive partners of neuroigin 3: new aspects for pathogenesis of autism. *J. Mol. Neurosci.* 56: 89-101.
- Brown, E.A., et al. 2018. Clustering the autisms using glutamate synapse protein interaction networks from cortical and hippocampal tissue of seven mouse models. *Mol. Autism* 9: 48.
- Lautz, J.D., et al. 2021. Synaptic protein interaction networks encode experience by assuming stimulus-specific and brain-region-specific states. *Cell Rep.* 37: 110076.
- Hong, N., et al. 2023. Photobiomodulation improves the synapses and cognitive function and ameliorates epileptic seizure by inhibiting down-regulation of Nlgn3. *Cell Biosci.* 13: 8.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.