

# Gephyrin (N-20): sc-32561

## BACKGROUND

The sub-membraneous region at the postsynaptic membrane contains a number of proteins critical for receptor targeting. Gephyrin is a microtubule-associated protein highly expressed in brain and localized to neuronal postsynaptic membranes. Gephyrin is essential for the postsynaptic localization of the inhibitory Glycine receptor and is thought to anchor the receptor to subsynaptic microtubules. The protein is expressed in most mammalian tissues with predominant expression in brain. At least five additional splice variants of Gephyrin ranging in molecular weight have been identified in rat and human brain tissue.

## REFERENCES

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2. Takagi, T., et al. 1992. Coexpression of the receptor-associated protein gephyrin changes the ligand binding affinities of  $\alpha 2$  glycine receptors. *FEBS Lett.* 303: 178-180.
3. Kirsch, J., et al. 1993. Distribution of gephyrin transcripts in the adult and developing rat brain. *Eur. J. Neurosci.* 5: 1109-1117.
4. Meyer, G., et al. 1995. Identification of a gephyrin binding motif on the glycine receptor  $\beta$  subunit. *Neuron* 15: 563-572.
5. Vannier, C., et al. 1997. Biology of the postsynaptic glycine receptor. *Int. Rev. Cytol.* 176: 201-244.
6. Ramming, M., et al. 1997. Analysis of the promoter region of the murine gephyrin gene. *FEBS Lett.* 405: 137-140.
7. Kawasaki, B.T., et al. 1997. Variants of the receptor/channel clustering molecule gephyrin in brain: distinct distribution patterns, developmental profiles, and proteolytic cleavage by calpain. *J. Neurosci. Res.* 49: 381-388.
8. Meier, J., et al. 2004. A gephyrin-related mechanism restraining glycine receptor anchoring at GABAergic synapses. *J. Neurosci.* 24: 1398-1405.
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## CHROMOSOMAL LOCATION

Genetic locus: GPHN (human) mapping to 14q23.3; Gphn (mouse) mapping to 12 C3.

## SOURCE

Gephyrin (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Gephyrin of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-32561 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Gephyrin (N-20) is recommended for detection of Gephyrin 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).

Gephyrin (N-20) is also recommended for detection of Gephyrin in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Gephyrin siRNA (h): sc-35464, Gephyrin siRNA (m): sc-35465, Gephyrin shRNA Plasmid (h): sc-35464-SH, Gephyrin shRNA Plasmid (m): sc-35465-SH, Gephyrin shRNA (h) Lentiviral Particles: sc-35464-V and Gephyrin shRNA (m) Lentiviral Particles: sc-35465-V.

Molecular Weight of Gephyrin: 93 kDa.

Positive Controls: 3611-RF whole cell lysate: sc-2215, H4 cell lysate: sc-2408 or rat brain extract: sc-2392.

## 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.

## 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) or our catalog for detailed protocols and support products.



Try **Gephyrin (G-6): sc-25311** or **Gephyrin (B-4): sc-55469**, our highly recommended monoclonal alternatives to Gephyrin (N-20).