

Grid2ip (A-4): sc-390952

BACKGROUND

Grid2ip (glutamate receptor, ionotropic, $\delta 2$ (Grid2 or GluR- $\delta 2$) interacting protein 1), also known as delphilin, is a postsynaptic scaffolding protein that contains one formin homology 2 (FH2) domain and two PDZ (postsynaptic density-95/discs-large/ZO-1) domains. Expressed in Purkinje cells of the cerebellum and localizing specifically to parallel fiber synapses, Grid2ip interacts with the C-terminus of GluR- $\delta 2$ and, via this interaction, links GluR- $\delta 2$ with various signaling molecules and the Actin cytoskeleton. GluR- $\delta 2$ is a glutamate receptor with an important role in motor learning, cerebellar wiring and synaptic plasticity. Due to alternative splicing events, three Grid2ip isoforms exist, namely L-delphilin, S-delphilin (or delphilin- α) and delphilin- β . Each isoform exhibits individual expression patterns and protein interactions. Isoform 2, delphilin- α , is palmytoylated, a modification that is essential for the enhanced expression of GluR- $\delta 2$ on the cell surface. This modification of delphilin- α also mediates the accumulation of delphilin- α in dendritic spines.

REFERENCES

1. Miyagi, Y., et al. 2002. Delphilin: a novel PDZ and formin homology domain-containing protein that synaptically colocalizes and interacts with glutamate receptor $\delta 2$ subunit. *J. Neurosci.* 22: 803-814.
2. Katoh, M., et al. 2003. Identification and characterization of human GRID2IP gene and rat Grid2ip gene in silico. *Int. J. Mol. Med.* 12: 1015-1019.
3. Katoh, M., et al. 2004. Identification and characterization of human DIAPH3 gene in silico. *Int. J. Mol. Med.* 13: 473-478.
4. Yamashita, T., et al. 2005. Identification and characterization of a novel delphilin variant with an alternative N-terminus. *Brain Res. Mol. Brain Res.* 141: 83-94.
5. Sonoda, T., et al. 2006. Binding of glutamate receptor $\delta 2$ to its scaffold protein, delphilin, is regulated by PKA. *Biochem. Biophys. Res. Commun.* 350: 748-752.

CHROMOSOMAL LOCATION

Genetic locus: GRID2IP (human) mapping to 7p22.1; Grid2ip (mouse) mapping to 5 G2.

SOURCE

Grid2ip (A-4) is a mouse monoclonal antibody raised against amino acids 91-280 mapping near the N-terminus of Grid2ip of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Grid2ip (A-4) is available conjugated to agarose (sc-390952 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390952 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390952 PE), fluorescein (sc-390952 FITC), Alexa Fluor[®] 488 (sc-390952 AF488), Alexa Fluor[®] 546 (sc-390952 AF546), Alexa Fluor[®] 594 (sc-390952 AF594) or Alexa Fluor[®] 647 (sc-390952 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-390952 AF680) or Alexa Fluor[®] 790 (sc-390952 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Grid2ip (A-4) is recommended for detection of Grid2ip of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for Grid2ip siRNA (m): sc-75199, Grid2ip shRNA Plasmid (m): sc-75199-SH and Grid2ip shRNA (m) Lentiviral Particles: sc-75199-V.

Molecular Weight (predicted) of Grid2ip: 132 kDa.

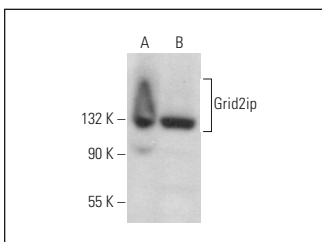
Molecular Weight (observed) of Grid2ip: 118 kDa.

Positive Controls: U-87 MG cell lysate: sc-2411 or IMR-32 cell lysate: sc-2409.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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 κ BP-FITC: sc-516140 or m-IgG κ 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



Grid2ip (A-4): sc-390952. Western blot analysis of Grid2ip expression in U-87 MG (A) and IMR-32 (B) whole cell lysates.

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 for detailed protocols and support products.

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