

GRIP1 (H-4): sc-365937



The Power to Question

BACKGROUND

Glutamate receptors mediate most excitatory neurotransmission in the brain and play an important role in neural plasticity, neural development and neurodegeneration. The glutamate receptor interacting proteins, GRIP1 and GRIP2, are members of the PDZ domain-containing protein family, and they specifically bind to the carboxy-terminus of AMPA receptor subunits, GluR-2 and GluR-3. GRIP1 and GRIP2 are involved in the targeting of GluR-2 and GluR-3 to the synapse. GRIP1 and GRIP2 are widely expressed in brain, with the highest levels in the cerebral cortex, hippocampus and olfactory bulb. They are both enriched in synaptic plasma and postsynaptic density fractions. GRIP1 is expressed in early development before the expression of AMPA receptors, specifically postnatal days 8-10, while GRIP2 expression parallels that of AMPA receptors during later developmental stages. GRIP1 and GRIP2 may mediate the endocytotic rate of GluR-2 and GluR-3 in response to the phosphorylation of the receptors on Ser 880 by PKC, which is implicated in the induction of cerebellar long-term depression (LTD).

REFERENCES

- Choi, D.W., et al. 1990. The role of glutamate neurotoxicity in hypoxic-ischemic neuronal death. *Annu. Rev. Neurosci.* 13: 171-182.
- Nakanishi, S. 1992. Molecular diversity of glutamate receptors and implications for brain function. *Science* 258: 597-603.
- Wyszynski, M., et al. 1999. Association of AMPA receptors with a subset of glutamate receptor-interacting protein *in vivo*. *J. Neurosci.* 19: 6528-6537.
- Dong, H., et al. 1999. Characterization of the glutamate receptor-interacting proteins GRIP1 and GRIP2. *J. Neurosci.* 19: 6930-6941.
- Osten, P., et al. 2000. Mutagenesis reveals a role for ABP/GRIP binding to GluR-2 in synaptic surface accumulation of the AMPA receptor. *Neuron* 27: 313-325.

CHROMOSOMAL LOCATION

Genetic locus: GRIP1 (human) mapping to 12q14.3; Grip1 (mouse) mapping to 10 D2.

SOURCE

GRIP1 (H-4) is a mouse monoclonal antibody raised against amino acids 910-1100 mapping near the C-terminus of GRIP1 of rat origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GRIP1 (H-4) is available conjugated to agarose (sc-365937 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365937 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365937 PE), fluorescein (sc-365937 FITC), Alexa Fluor® 488 (sc-365937 AF488), Alexa Fluor® 546 (sc-365937 AF546), Alexa Fluor® 594 (sc-365937 AF594) or Alexa Fluor® 647 (sc-365937 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365937 AF680) or Alexa Fluor® 790 (sc-365937 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

GRIP1 (H-4) is recommended for detection of GRIP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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 GRIP1 siRNA (h): sc-42160, GRIP1 siRNA (m): sc-42161, GRIP1 shRNA Plasmid (h): sc-42160-SH, GRIP1 shRNA Plasmid (m): sc-42161-SH, GRIP1 shRNA (h) Lentiviral Particles: sc-42160-V and GRIP1 shRNA (m) Lentiviral Particles: sc-42161-V.

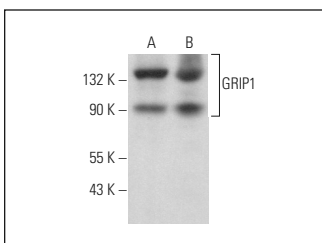
Molecular Weight of GRIP1: 130 kDa.

Positive Controls: C6 whole cell lysate: sc-364373, IMR-32 cell lysate: sc-2409 or rat brain extract: sc-2392.

RECOMMENDED SUPPORT REAGENTS

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



GRIP1 (H-4): sc-365937. Western blot analysis of GRIP1 expression in C6 (A) and IMR-32 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Tsumagari, R., et al. 2020. Precise regulation of the basal PKCγ activity by DGKγ is crucial for motor coordination. *Int. J. Mol. Sci.* 21: 7866.

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.

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