SANTA CRUZ BIOTECHNOLOGY, INC.

GluR-δ2 (48): sc-135927

SANTA CRUZ BIOTECHNOLOGY

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. Ionotropic glutamate receptors are categorized into NMDA receptors and kainate/AMPA receptors, both of which contain glutamate-gated, cation-specific ion channels. Kainate/AMPA receptors co-localize with NMDA receptors in many synapses and consist of seven structurally related subunits designated GluR-1 to -7 as well as GluR-δ2. The kainate/AMPA receptors are primarily responsible for the fast excitatory neurotransmission by glutamate whereas the NMDA receptors are functionally characterized by a slow kinetic and a high permeability for Ca^{2+} ions. The NMDA receptors consist of five subunits: ε1, 2, 3, 4 and one ζ subunit. The ζ subunit is expressed throughout the brainstem whereas the four ε subunits display limited distribution. In mice, mutations in the gene encoding GluR-δ2 (GRID2) cause the Lurcher phenotype. The gene encoding human GluR-δ2 maps to chromosome 4q22.1.

REFERENCES

1. Choi, D.W., et al. 1990. The role of glutamate neurotoxicity in hypoxic-ischemic neuronal death. Annu. Rev. Neurosci. 13: 171-182.
2. Nakanishi, S., et al. 1992. Molecular diversity of glutamate receptors and implications for brain function. Science 258: 597-603.
3. Stern, P., et al. 1992. Fast and slow components of unitary EPSCs on stellate cells elicited by focal stimulation in slices of rat visual cortex. J. Physiol. 449: 247-278.
4. Bliss, T.V., et al. 1993. A synaptic model of memory: long-term potentiation in the hippocampus. Nature 361: 31-39.
5. Watanabe, M., et al. 1994. Distinct distributions of five NMDA receptor channel subunit mRNAs in the brainsteam. J. Comp. Neurol. 343: 520-531.
6. Hollmann, M., et al. 1994. Cloned glutamate receptors. Annu. Rev. Neurosci. 17: 31-108.
7. Schiffer, H.H., et al. 1997. Rat GluR-7 and a carboxy-terminal splice variant, GluR-7β, are functional kainate receptor subunits with a low sensitivity to glutamate. Neuron 19: 1141-1146.
8. Zuo, J., et al. 1997. Neurodegeneration in Lurcher mice caused by mutation in δ2 glutamate receptor gene. Nature 388: 769-773.
9. Hu, W., et al. 1998. The human glutamate receptor δ-2 gene (GRID2) maps to chromosome 4q22. Genomics 47: 143-145.

CHROMOSOMAL LOCATION

Genetic locus: Grid2 (mouse) mapping to 6 C1.

SOURCE

GluR-δ2 (48) is a mouse monoclonal antibody raised against amino acids 665-786 of GluR-δ2 of mouse origin.

RESEARCH USE

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

PRODUCT

Each vial contains 50 µg IgG_1 in 500 µl of PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol and 0.04% stabilizer protein.

APPLICATIONS

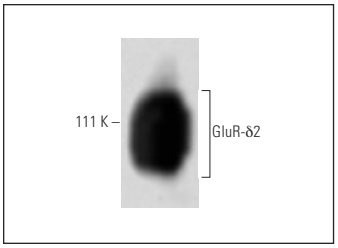
GluR-δ2 (48) is recommended for detection of GluR-δ2 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for GluR-δ2 siRNA (m): sc-42492, GluR-δ2 shRNA Plasmid (m): sc-42492-SH and GluR-δ2 shRNA (m) Lentiviral Particles: sc-42492-V.

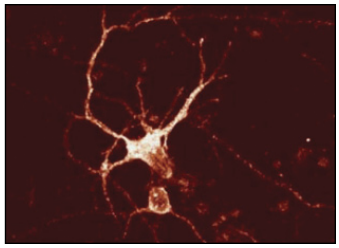
Molecular Weight of GluR-δ2: 110 kDa.

Positive Controls: rat brain extract: sc-2392 or rat cerebellum extract: sc-2398.

DATA



GluR-δ2 (48): sc-135927. Western blot analysis of GluR-δ2 expression in rat brain tissue extract.



GluR-δ2 (48): sc-135927. Immunofluorescence staining of rat neurons showing axon and dendrite localization.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.