SANTA CRUZ BIOTECHNOLOGY, INC.

mGluR-7 (H-47): sc-99045

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The mGluR proteins (metabotropic glutamate receptors) are members of the G protein-coupled receptor family and are functionally and pharmacologically distinct from the GluR proteins (ionotropic glutamate receptors). The eight currently known mGluR proteins are mediated by two G-proteins with opposing regulation of adenylate cyclase pathways. The activities of mGluR-1 and mGluR-5 are mediated by a G protein that activates a phosphatidylinositol-calcium second messenger system and generates a calcium-activated chloride current. The remainder of the eight subtypes of mGluR have an activity mediated by a G protein that inhibits adenylate cyclase activity. mGluR-7, which can interact with PRKCABP, acts as a receptor for glutamate. It is highly expressed in various areas of the brain, but highest levels are detected in cerebellum, cerebral cortex and hippocampus.

REFERENCES

1. Makoff, A., et al. 1997. Human metabotropic glutamate receptor type 7: molecular cloning and mRNA distribution in the CNS. Brain Res. Mol. Brain Res. 40: 165-170.
2. Flor, P.J., et al. 1997. A novel splice variant of a metabotropic glutamate receptor, human mGluR-7b. Neuropharmacology 36: 153-159.
3. Wu, S., et al. 1998. Group III human metabotropic glutamate receptors 4, 7 and 8: molecular cloning, functional expression, and comparison of pharmacological properties in RGT cells. Brain Res. Mol. Brain Res. 53: 88-97.
4. Bolonna, A.A., et al. 2001. Polymorphisms in the genes for mGluR types 7 and 8: association studies with schizophrenia. Schizophr. Res. 47: 99-103.
5. Schulz, H.L., et al. 2002. Characterization of three novel isoforms of the metabotrobic glutamate receptor 7 (GRM7). Neurosci. Lett. 326: 37-40.
6. Cryan, J.F., et al. 2003. Antidepressant and anxiolytic-like effects in mice lacking the group III metabotropic glutamate receptor mGluR-7. Eur. J. Neurosci. 17: 2409-2417.
7. Millán, C., et al. 2003. Co-expression of metabotropic glutamate receptor 7 and N-type Ca^{2+} channels in single cerebrocortical nerve terminals of adult rats. J. Biol. Chem. 278: 23955-23962.

CHROMOSOMAL LOCATION

Genetic locus: GRM7 (human) mapping to 3p26.1; Grm7 (mouse) mapping to 6 E3.

SOURCE

mGluR-7 (H-47) is a rabbit polyclonal antibody raised against amino acids 251-297 mapping within an internal region of mGluR-7 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

mGluR-7 (H-47) is recommended for detection of mGluR-7 of mouse, rat and human 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)], 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).

mGluR-7 (H-47) is also recommended for detection of mGluR-7 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for mGluR-7 siRNA (h): sc-61038, mGluR-7 siRNA (m): sc-61039, mGluR-7 shRNA Plasmid (h): sc-61038-SH, mGluR-7 shRNA Plasmid (m): sc-61039-SH, mGluR-7 shRNA (h) Lentiviral Particles: sc-61038-V and mGluR-7 shRNA (m) Lentiviral Particles: sc-61039-V.

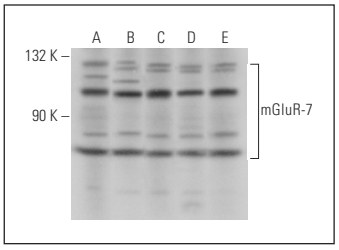
Molecular Weight of mGluR-7: 102 kDa.

Positive Controls: MDA-MB-435S whole cell lysate: sc-364184, HUV-EC-C whole cell lysate: sc-364180 or K-562 whole cell lysate: sc-2203.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



mGluR-7 (H-47): sc-99045. Western blot analysis of mGluR-7 expression in K-562 (**A**), HUV-EC-C (**B**), MDA-MB-435S (**C**), Jurkat (**D**) and U-698-M (**E**) whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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