SANTA CRUZ BIOTECHNOLOGY, INC.

mGluR-1a/b (H-41): sc-99040

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-1, which can form a homodimer, acts as a receptor for glutamate. It may also be involved in glutamate activity in the CNS.

REFERENCES

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3. Ray, K. and Hauschild, B.C. 2000. Cys-140 is critical for metabotropic glutamate receptor-1 dimerization. J. Biol. Chem. 275: 34245-34251.
4. Kammermeier, P.J. and Yun, J. 2005. Activation of metabotropic glutamate receptor 1 dimers requires glutamate binding in both subunits. J. Pharmacol. Exp. Ther. 312: 502-508.
5. Topolnik, L., Azzi, M., Morin, F., Kougioumoutzakis, A. and Lacaille, J.C. 2006. mGluR-1/-5 subtype-specific calcium signalling and induction of long-term potentiation in rat hippocampal oriens/alveus interneurones. J. Physiol. 575: 115-131.
6. Kuang, D. and Hampson, D.R. 2006. Ion dependence of ligand binding to metabotropic glutamate receptors. Biochem. Biophys. Res. Commun. 345: 1-6.
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CHROMOSOMAL LOCATION

Genetic locus: GRM1 (human) mapping to 6q24.3; Grm1 (mouse) mapping to 10 A1.

SOURCE

mGluR-1a/b (H-41) is a rabbit polyclonal antibody raised against amino acids 478-518 mapping within an internal region of mGluR-1 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.

APPLICATIONS

mGluR-1a/b (H-41) is recommended for detection of mGluR-1a/b 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-1a/b (H-41) is also recommended for detection of mGluR-1a/b in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for mGluR-1a/b siRNA (h): sc-61026, mGluR-1a/b siRNA (m): sc-61027, mGluR-1a/b shRNA Plasmid (h): sc-61026-SH, mGluR-1a/b shRNA Plasmid (m): sc-61027-SH, mGluR-1a/b shRNA (h) Lentiviral Particles: sc-61026-V and mGluR-1a/b shRNA (m) Lentiviral Particles: sc-61027-V.

Molecular Weight of mGluR-1a/b nonreduced dimeric form: 260/270 kDa.

Molecular Weight of mGluR-1a/b reduced monomeric form: 135 kDa.

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.

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 or our catalog for detailed protocols and support products.