

mGluR-4 (D-17): sc-47142

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-4, which can interact with PRKCABP, acts as a receptor for glutamate. It is highly expressed in cerebellum.

REFERENCES

- Flor, P.J., Lukic, S., Rüegg, D., Leonhardt, T., Knöpfel, T. and Kuhn, R. 1995. Molecular cloning, functional expression and pharmacological characterization of the human metabotropic glutamate receptor type 4. *Neuropharmacology* 34: 149-155.
- Wu, S., Wright, R.A., Rockey, P.K., Burgett, S.G., Arnold, J.S., Rosteck, P.R., Johnson, B.G., Schoepp, D.D. and Belagaje, R.M. 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.
- Ohtsuki, T., Toru, M. and Arinami, T. 2001. Mutation screening of the metabotropic glutamate receptor mGluR-4 (GRM4) gene in patients with schizophrenia. 11: 79-83.
- Marino, M.J., Hess, J.F. and Liverton, N. 2005. Targeting the metabotropic glutamate receptor mGluR-4 for the treatment of diseases of the central nervous system. *Curr. Top. Med. Chem.* 5: 885-895.
- Wang, X., Ai, J., Hampson, D.R. and Snead, O.C. 2005. Altered glutamate and GABA release within thalamocortical circuitry in metabotropic glutamate receptor 4 knockout mice. *Neuroscience.* 134: 1195-1203.
- Chang, H.J., Yoo, B.C., Lim, S.B., Jeong, S.Y., Kim, W.H. and Park, J.G. 2005. Metabotropic glutamate prognostic significance. *Clin. Cancer Res.* 11: 3288-3295.
- Sarría, R., Díez, J., Losada, J., Doñate-Oliver, F., Kuhn, R. and Grandes, P. 2005. Immunocytochemical localization of metabotropic (mGluR-2/-3 and mGluR-4a) and ionotropic (GluR-2/-3) glutamate receptors in adrenal medullary ganglion cells. *Histol. Histopathol.* 21: 141-147.
- Mathiesen, J.M. and Ramirez, M.T. 2006. The metabotropic glutamate receptor 4 is internalized and desensitized upon protein kinase C activation. *Br. J. Pharmacol.* 148: 279-290.

CHROMOSOMAL LOCATION

Genetic locus: GRM4 (human) mapping to 6p21.31; Grm4 (mouse) mapping to 17 A3.3.

RESEARCH USE

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

SOURCE

mGluR-4 (D-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of mGluR-4 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.

Blocking peptide available for competition studies, sc-47142 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

mGluR-4 (D-17) is recommended for detection of mGluR-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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-4 (D-17) is also recommended for detection of mGluR-4 in additional species, including canine and porcine.

Suitable for use as control antibody for mGluR-4 siRNA (h): sc-61032, mGluR-4 siRNA (m): sc-61033, mGluR-4 shRNA Plasmid (h): sc-61032-SH, mGluR-4 shRNA Plasmid (m): sc-61033-SH, mGluR-4 shRNA (h) Lentiviral Particles: sc-61032-V and mGluR-4 shRNA (m) Lentiviral Particles: sc-61033-V.

Molecular Weight of mGluR-4: 110 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (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.



Try **mGluR-4 (B-8): sc-376485**, our highly recommended monoclonal alternative to mGluR-4 (D-17).