

# mGluR-4 (H-40): sc-99043

## 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

1. 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.
2. 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.
3. Ohtsuki, T., Toru, M. and Arinami, T. 2001. Mutation screening of the metabotropic glutamate receptor mGluR-4 (GRM4) gene in patients with schizophrenia. *Psychiatr. Genet.* 11: 79-83.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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 (H-40) is a rabbit polyclonal antibody raised against amino acids 364-403 mapping within an internal region 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.

## APPLICATIONS

mGluR-4 (H-40) 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), 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-4 (H-40) is also recommended for detection of mGluR-4 in additional species, including 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 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.


 MONOS  
Satisfaction  
Guaranteed

Try **mGluR-4 (B-8): sc-376485**, our highly recommended monoclonal alternative to mGluR-4 (H-40).