

mGluR-1a/5 (G-21): sc-135682

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 function of mGluR proteins are mediated by two G proteins with opposing regulation of adenylate cyclase pathways. The activities of mGluR-1 and mGluR-5, both of which act as a receptor for glutamate, are mediated by a G protein that activates a phosphatidylinositol-calcium second messenger system and generates a calcium-activated chloride current. mGluR-1 localizes to the cell membrane where it exists as a homodimer composed of two alternatively spliced isoforms, designated mGluR-1a and mGluR-1b.

REFERENCES

1. Minakami, R., Katsuki, F., Yamamoto, T., Nakamura, K. and Sugiyama, H. 1994. Molecular cloning and the functional expression of two isoforms of human metabotropic glutamate receptor subtype 5. *Biochemical and biophysical research communications*. 199: 1136-1143.
2. Desai, MA., Burnett, JP., Mayne, NG. and Schoepp, DD. 1995. Cloning and expression of a human enhanced coupling on co-transfection with a glutamate transporter. *Molecular pharmacology*. 48: 648-657.
3. Stephan, D., Bon, C., Holzwarth, JA., Galvan, M. and Pruss, RM. 1997. Human metabotropic glutamate receptor 1: mRNA distribution, chromosome localization and functional expression of two splice variants. *Neuropharmacology*. 35: 1649-60.

CHROMOSOMAL LOCATION

Genetic locus: GRM1 (human) mapping to 6q24.3, GRM5 (human) mapping to 11q14.2; Grm1 (mouse) mapping to 10 A1, Grm57(mouse) mapping to E1.

SOURCE

mGluR-1a/5 (G-21) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of mGluR-1a and mGluR-5 of rat origin.

PRODUCT

Each vial contains IgG in 100 µl of TBS with < 0.1% sodium azide.

APPLICATIONS

mGluR-1a/5 (G-21) is recommended for detection of mGluR-1a/5 of mouse, rat and human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:5000), immunoprecipitation [1-2 µl per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution to be determined by researcher, dilution range 1:50-1:2500).

Molecular Weight of mGluR-5: 145 kDa.

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

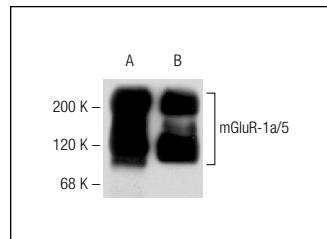
Molecular Weight of mGluR-1a/5 reduced monomeric form: 135 kDa.

Positive Controls: mouse brain extract: sc-2253.

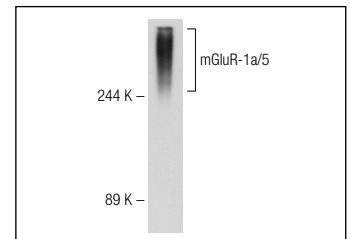
RECOMMENDED SECONDARY REAGENTS

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-1a/5 (G-21): sc-135682. Western blot analysis of mGluR-1a/5 expression in rat mGluR-5 (A) and rat mGluR-1a (B) transfected 293 whole cell lysates.



mGluR-1a/5 (G-21): sc-135682. Western blot analysis of mGluR-1a/5 expression in mouse brain tissue extract.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

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.

MONOS
Satisfaction
Guaranteed

Try **mGluR-1a/b (1F7): sc-293437** or **mGluR-5 (1B3): sc-293442**, our highly recommended monoclonal alternatives to mGluR-1a/5 (G-21).