

# mGluR-3 (E-12): sc-47137

## 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-3, which may interact with GRASP, acts as a receptor for glutamate.

## REFERENCES

1. Makoff, A., et al. 1997. Molecular characterization and localization of human metabotropic glutamate receptor type 3. *Brain Res. Mol. Brain Res.* 40: 55-63.
2. 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.
3. Bäckström, P. and Hyttiä, P. 2005. Suppression of alcohol self-administration and cue-induced reinstatement of alcohol seeking by the mGlu2/3 receptor agonist LY379268 and the mGlu8 receptor agonist (S)-3,4-DCPG. *Eur. J. Pharmacol.* 528: 110-108.
4. Pacheco Otalora, L.F., et al. 2006. Abnormal mGluR-2/-3 expression in the perforant path termination zones and mossy fibers of chronically epileptic rats. *Brain Res.* 1098: 170-185.
5. Yoshimizu, T., et al. 2006. An mGluR-2/-3 antagonist, MGS0039, exerts antidepressant and anxiolytic effects in behavioral models in rats. *Psychopharmacology* 186: 587-593.
6. Ohana, L., et al. 2006. The metabotropic glutamate G protein-coupled receptors mGluR-3 and mGluR-1a are voltage sensitive. *J. Biol. Chem.* 281: 24204-24215.
7. Marengo, S., et al. 2006. Effect of metabotropic glutamate receptor 3 genotype on N-acetylaspartate measures in the dorsolateral prefrontal cortex. *Am. J. Psychiatry* 163: 740-742.

## CHROMOSOMAL LOCATION

Genetic locus: GRM3 (human) mapping to 7q21.11; Grm3 (mouse) mapping to 5 A1.

## SOURCE

mGluR-3 (E-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of mGluR-3 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-47137 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

mGluR-3 (E-12) is recommended for detection of mGluR-3 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-3 (E-12) is also recommended for detection of mGluR-3 in additional species, including canine, porcine and avian.

Suitable for use as control antibody for mGluR-3 siRNA (h): sc-61030, mGluR-3 siRNA (m): sc-61031, mGluR-3 shRNA Plasmid (h): sc-61030-SH, mGluR-3 shRNA Plasmid (m): sc-61031-SH, mGluR-3 shRNA (h) Lentiviral Particles: sc-61030-V and mGluR-3 shRNA (m) Lentiviral Particles: sc-61031-V.

Molecular Weight of mGluR-3: 110/220 kDa.

Positive Controls: SK-N-MC cell lysate: sc-2237.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## SELECT PRODUCT CITATIONS

1. Nanavati, D., et al. 2011. The effects of chronic treatment with mood stabilizers on the rat hippocampal post-synaptic density proteome. *J. Neurochem.* 119: 617-629.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **mGluR-3 (A-10): sc-271899**, our highly recommended monoclonal alternative to mGluR-3 (E-12).