SANTA CRUZ BIOTECHNOLOGY, INC.

mGluR-5 (N-14): sc-47147

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The mGluR (metabotropic glutamate receptor) proteins are members of the G protein-coupled receptor family and are functionally and pharmacologically distinct from the GluR (ionotropic glutamate receptor) proteins. 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-5, which can interact with SIAH1, RYR1, RYR2, ITPR1, SHANK1, SHANK3 and GRASP, acts as a receptor for glutamate. The PPXXf motif of mGluR-5 binds to HOM1, HOM2 and HOM3.

REFERENCES

1. Minakami, R., et al. 1993. A variant of metabotropic glutamate receptor subtype 5: an evolutionally conserved insertion with no termination codon. Biochem. Biophys. Res. Commun. 194: 622-627.
2. Minakami, R., et al. 1994. Molecular cloning and the functional expression of two isoforms of human metabotropic glutamate receptor subtype 5. Biochem. Biophys. Res. Commun. 199: 1136-1143.
3. Molina-Hernández, M., et al. 2006. Antidepressant-like and anxiolytic-like actions of the mGluR-5 receptor antagonist MTEP, microinjected into lateral septal nuclei of male Wistar rats. Prog. Neuropsychopharmacol. Biol. Psychiatry 30: 1129-1135.
4. Sen, M. and Gleason, E. 2006. Immunolocalization of metabotropic glutamate receptors 1 and 5 in the synaptic layers of the chicken retina. Vis. Neurosci. 23: 221-231.
5. Ametamey, S.M., et al. 2006. Radiosynthesis and preclinical evaluation of 11C-ABP688 as a probe for imaging the metabotropic glutamate receptor subtype 5. J. Nucl. Med. 47: 698-705.

CHROMOSOMAL LOCATION

Genetic locus: GRM5 (human) mapping to 11q14.2; Grm5 (mouse) mapping to 7 D3.

SOURCE

mGluR-5 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of mGluR-5 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-47147 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

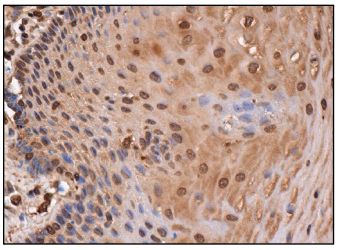
mGluR-5 (N-14) is recommended for detection of mGluR-5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

mGluR-5 (N-14) is also recommended for detection of mGluR-5 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for mGluR-5 siRNA (h): sc-61034, mGluR-5 siRNA (m): sc-61035, mGluR-5 shRNA Plasmid (h): sc-61034-SH, mGluR-5 shRNA Plasmid (m): sc-61035-SH, mGluR-5 shRNA (h) Lentiviral Particles: sc-61034-V and mGluR-5 shRNA (m) Lentiviral Particles: sc-61035-V.

Molecular Weight of mGluR-5: 145 kDa.

DATA



mGluR-5 (N-14): sc-47147. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing nuclear and cytoplasmic staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

1. Mayo, J.N., et al. 2011. Nitrative stress in cerebral endothelium is mediated by mGluR5 in hyperhomocysteinemia. J. Cereb. Blood Flow Metab. 32: 825-834.
2. Chen, C.H., et al. 2012. Homocysteine impairs endothelial wound healing by activating metabotropic glutamate receptor 5. Microcirculation 19: 285-295.
3. Beard, R.S., et al. 2012. Metabotropic glutamate receptor 5 mediates phosphorylation of vascular endothelial cadherin and nuclear localization of β-catenin in response to homocysteine. Vascul. Pharmacol. 56: 159-167.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

MONOS Satisfaction Guaranteed

Try **mGluR-5 (1B3): sc-293442**, our highly recommended monoclonal aternative to mGluR-5 (N-14).