SANTA CRUZ BIOTECHNOLOGY, INC.

mGluR-1a/b (N-16): sc-47131

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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-1, which can form a homodimer, acts as a receptor for glutamate. It may also be involved in glutamate activity in the CNS.

REFERENCES

1. Desai, M.A., et al. 1995. Cloning and expression of a human enhanced coupling on co-transfection with a glutamate transporter. Mol. Pharmacol. 48: 648-57.
2. Stephan, D., et al. 1997. Human metabotropic glutamate receptor 1: mRNA distribution, chromosome localization and functional expression of two splice variants. Neuropharmacology 35: 1649-1660.
3. Ray, K. and Hauschild, B.C. 2000. Cys-140 is critical for metabotropic glutamate receptor-1 dimerization. J. Biol. Chem. 275: 34245-34251.
4. 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.
5. Topolnik, L., et al. 2006. mGluR-1/-5 subtype-specific calcium signalling and induction of long-term potentiation in rat hippocampal oriens/alveus interneurones. J. Physiol. 575: 115-131.

CHROMOSOMAL LOCATION

Genetic locus: GRM1 (human) mapping to 6q24.3; Grm1 (mouse) mapping to 10 A1.

SOURCE

mGluR-1a/b (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of mGluR-1 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-47131 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

mGluR-1a/b (N-16) is recommended for detection of mGluR-1a/b 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), 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-1a/b (N-16) is also recommended for detection of mGluR-1a/b in additional species, including equine, canine, bovine and porcine.

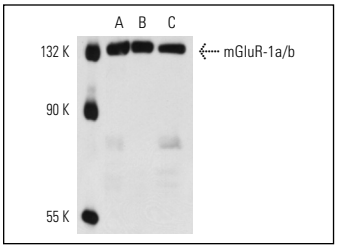
Suitable for use as control antibody for mGluR-1a/b siRNA (h): sc-61026, mGluR-1a/b siRNA (m): sc-61027, mGluR-1a/b shRNA Plasmid (h): sc-61026-SH, mGluR-1a/b shRNA Plasmid (m): sc-61027-SH, mGluR-1a/b shRNA (h) Lentiviral Particles: sc-61026-V and mGluR-1a/b shRNA (m) Lentiviral Particles: sc-61027-V.

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

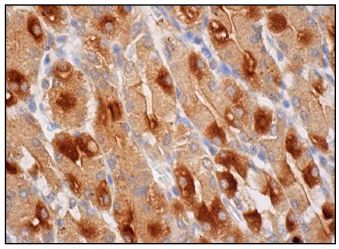
Molecular Weight of mGluR-1a/b reduced monomeric form: 135 kDa.

Positive Controls: mouse cerebellum extract: sc-2403, mouse brain extract: sc-2253 or rat brain extract: sc-2392.

DATA



mGluR-1a/b (N-16): sc-47131. Western blot analysis of mGluR-1a/b expression in mouse cerebellum (**A**), rat brain (**B**) and mouse brain (**C**) tissue extracts.



mGluR-1a/b (N-16): sc-47131. Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Ahlemeyer, B., et al. 2013. Phenotype, differentiation, and function differ in rat and mouse neocortical astrocytes cultured under the same conditions. J. Neurosci. Methods 212: 156-164.

RESEARCH USE

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