### SANTA CRUZ BIOTECHNOLOGY, INC.

# mGluR-1a (C-20): sc-47128



#### 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 mGluR1 and mGluR5 are mediated by a G-protein that activates a phosphatidylinositolcalcium second messenger system and generates a calcium-activated chloride current. The remainder of the eight sub-types 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

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- Stephan, D., Bon, C., Holzwarth, J.A., Galvan, M. and Pruss, R.M. 1997. Human metabotropic glutamate receptor 1: mRNA distribution, chromosome localization and functional expression of two splice variants. Neuro-pharmacology 35: 1649-1660.
- Ray, K. and Hauschild, B.C. 2000. Cys-140 is critical for metabotropic glutamate receptor-1 dimerization. J. Biol. Chem. 275: 34245-34251.
- 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.
- Topolnik, L., Azzi, M., Morin, F., Kougioumoutzakis, A. and Lacaille, J.C. 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.
- Kuang, D. and Hampson, D.R. 2006. Ion dependence of ligand binding to metabotropic glutamate receptors. Biochem. Biophys. Res. Commun. 345: 1-6.

#### CHROMOSOMAL LOCATION

Genetic locus: GRM1 (human) mapping to 6q24; Grm1 (mouse) mapping to 10 A2.

#### SOURCE

mGluR-1a (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of mGluR-1 of human origin.

#### PRODUCT

Each vial contains 200  $\mu g$  lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-47128 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

#### APPLICATIONS

mGluR-1a (C-20) is recommended for detection of mGluR-1a 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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: 145 kDa.

#### **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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluo-rescence: use donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> 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.

#### **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 Satisfation Guaranteed

Try **mGluR-1a/b (1F7): sc-293437**, our highly recommended monoclonal aternative to mGluR-1a (C-20).