

# mGluR-1a/b (1F7): sc-293437

## 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

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- 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.
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- 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., et al. 2006. mGluR-1/-5 subtype-specific calcium signalling and induction of long-term potentiation in rat hippocampal oriens/alveus interneurons. *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.
- 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.
- Hemstapat, K., et al. 2006. A novel class of positive allosteric modulators of metabotropic glutamate receptor subtype 1 interact with a site distinct from that of negative allosteric modulators. *Mol. Pharmacol.* 70: 616-626.

## CHROMOSOMAL LOCATION

Genetic locus: GRM1 (human) mapping to 6q24.3.

## SOURCE

mGluR-1a/b (1F7) is a mouse monoclonal antibody raised against amino acids 387-486 representing partial length mGluR-1a/b of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

mGluR-1a/b (1F7) is recommended for detection of mGluR-1a/b of 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)] 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 shRNA Plasmid (h): sc-61026-SH and mGluR-1a/b shRNA (h) Lentiviral Particles: sc-61026-V.

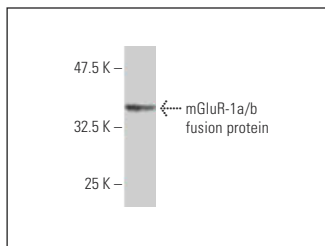
Molecular Weight of mGluR-1a/b nonreduced dimeric form: 260/270 kDa.

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

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA



mGluR-1a/b (1F7): sc-293437. Western blot analysis of human recombinant mGluR-1a/b fusion protein.

## SELECT PRODUCT CITATIONS

- Chang, J., et al. 2019. Downregulation of RTN1-C attenuates MPP<sup>+</sup>-induced neuronal injury through inhibition of mGluR5 pathway in SN4741 cells. *Brain Res. Bull.* 146: 1-6.

## 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) for detailed protocols and support products.