

mAChR M1 (H-2): sc-365548

BACKGROUND

The muscarinic acetylcholine receptors (mAChR) mediate a variety of cellular responses, including inhibition of adenylate cyclase, breakdown of phosphoinositides and modulation of potassium channels. The mAChRs transduce signals by coupling to G proteins, which then modulate several downstream effector proteins and ion channels. Five mAChR subtypes have been identified, designated M1 to M5. The five receptor subtypes show distinct patterns of tissue distribution, as well as distinct pharmacological and functional properties. The amino acid sequence of each mAChR subtype reflects a structure that is characteristic of G protein-coupled receptors, consisting of seven highly conserved transmembrane segments and a large intracellular region unique to each subtype, which constitutes the effector-coupling domain.

REFERENCES

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2. Liao, C.F., et al. 1989. Molecular cloning and expression of a fifth muscarinic acetylcholine receptor. *J. Biol. Chem.* 264: 7328-7337.
3. Hulme, E.C. 1990. Muscarinic acetylcholine receptors: typical G coupled receptors. *Symp. Soc. Exp. Biol.* 44: 39-54.
4. Hulme, E.C., et al. 1991. Muscarinic acetylcholine receptors: structure and function. *Biochem. Soc. Trans.* 19: 133-138.
5. Caulfield, M.P. 1993. Muscarinic receptor-characterization, coupling and function. *Pharmacol. Ther.* 58: 319-379.
6. Brann, M.R., et al. 1993. Muscarinic acetylcholine receptor subtypes: localization and structure/function. *Prog. Brain Res.* 98: 121-127.
7. Tice, M.A., et al. 1996. Distribution of muscarinic receptor subtypes in rat brain from postnatal to old age. *Brain Res. Dev. Brain Res.* 92: 70-76.
8. Brauner-Osborne, H., et al. 1996. Pharmacology of muscarinic acetylcholine receptor subtypes (M1-M5): high throughput assays in mammalian cells. *Eur. J. Pharmacol.* 295: 93-102.

CHROMOSOMAL LOCATION

Genetic locus: CHRM1 (human) mapping to 11q12.3; Chrm1 (mouse) mapping to 19 A.

SOURCE

mAChR M1 (H-2) is a mouse monoclonal antibody raised against amino acids 231-350 of mAChR M1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

mAChR M1 (H-2) is recommended for detection of mAChR M1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for mAChR M1 siRNA (h): sc-35829, mAChR M1 siRNA (m): sc-35830, mAChR M1 shRNA Plasmid (h): sc-35829-SH, mAChR M1 shRNA Plasmid (m): sc-35830-SH, mAChR M1 shRNA (h) Lentiviral Particles: sc-35829-V and mAChR M1 shRNA (m) Lentiviral Particles: sc-35830-V.

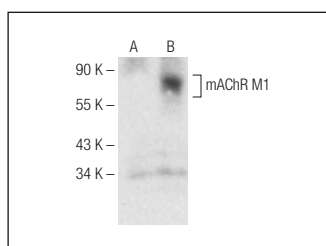
Molecular Weight of mAChR M1: 52 kDa.

Positive Controls: mAChR M1 (h5): 293 Lysate: sc-158705 or rat heart extract: sc-2393.

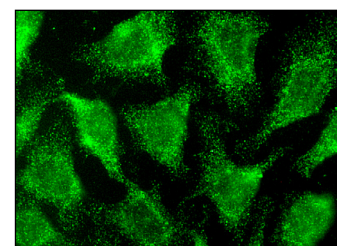
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



mAChR M1 (H-2): sc-365548. Western blot analysis of mAChR M1 expression in non-transfected: sc-110760 (A) and human mAChR M1 transfected: sc-158705 (B) 293 whole cell lysates.



mAChR M1 (H-2): sc-365548. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.