

# mAChR M1 (N-19): sc-7471

## 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

1. Peralta, E.G., et al. 1987. Primary structure and biochemical properties of an M2 muscarinic receptor. *Science* 236: 600-605.
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 11q13; Chrm1 (mouse) mapping to 19 A.

## SOURCE

mAChR M1 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of mAChR M1 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-7471 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

mAChR M1 (N-19) is recommended for detection of mAChR M1 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

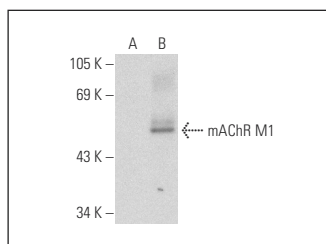
mAChR M1 (N-19) is also recommended for detection of mAChR M1 in additional species, including equine, canine, bovine and porcine.

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

## DATA



mAChR M1 (N-19): sc-7471. 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.

## SELECT PRODUCT CITATIONS

1. Jositsch, G., et al. 2009. Suitability of muscarinic acetylcholine receptor antibodies for immunohistochemistry evaluated on tissue sections of receptor gene-deficient mice. *Naunyn Schmiedebergs Arch. Pharmacol.* 379: 389-395.

## STORAGE

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


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Try **mAChR M1 (G-9): sc-365966** or **mAChR M1 (H-2): sc-365548**, our highly recommended monoclonal alternatives to mAChR M1 (N-19).