SANTA CRUZ BIOTECHNOLOGY, INC.

mAChR M5 (H-197): sc-9110

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: CHRM5 (human) mapping to 15q14; Chrm5 (mouse) mapping to 2 E3.

SOURCE

mAChR M5 (H-197) is a rabbit polyclonal antibody raised against amino acids 230-426 of mAChR M5 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.

APPLICATIONS

mAChR M5 (H-197) is recommended for detection of mAChR M5 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).

Suitable for use as control antibody for mAChR M5 siRNA (h): sc-42028, mAChR M5 siRNA (m): sc-42029, mAChR M5 shRNA Plasmid (h): sc-42028-SH, mAChR M5 shRNA Plasmid (m): sc-42029-SH, mAChR M5 shRNA (h) Lentiviral Particles: sc-42028-V and mAChR M5 shRNA (m) Lentiviral Particles: sc-42029-V.

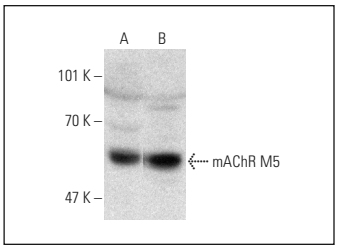
Molecular Weight of mAChR M5: 60 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

STORAGE

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

DATA



mAChR M5 (H-197): sc-9110. Western blot analysis of mAChR M5 expression in 293T (**A**) and NIH/3T3 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Oyachi, N., et al. 2003. Development of ovine fetal ileal motility: role of muscarinic receptor subtypes. Am. J. Obstet. Gynecol. 189: 953-957.
2. Kurzen, H., et al. 2004. Phenotypical and molecular profiling of the extraneuronal cholinergic system of the skin. J. Invest. Dermatol. 123: 937-949.
3. Fiszman, G.L., et al. 2007. Activation of muscarinic cholinergic receptors induces MCF-7 cells proliferation and angiogenesis by stimulating nitric oxide synthase activity. Cancer Biol. Ther. 6: 1106-1113.
4. Myslivecek, J., et al. 2008. The detection of the non-M2 muscarinic receptor subtype in the rat heart atria and ventricles. Naunyn Schmiedebergs Arch. Pharmacol. 378: 103-116.
5. Cerecedo, D., et al. 2008. β-dystroglycan modulates the interplay between actin and microtubules in human-adhered platelets. Br. J. Haematol. 141: 517-528.
6. Cardoso, C.C., et al. 2010. Effects of 17β-estradiol on expression of muscarinic acetylcholine receptor subtypes and estrogen receptor α in rat hippocampus. Eur. J. Pharmacol. 634: 192-200.
7. Cerecedo, D., et al. 2010. Actin filaments and microtubule dual-granule transport in human adhered platelets: the role of α-dystrobrevins. Br. J. Haematol. 149: 124-136.
8. Aykac, A., et al. 2012. The change in muscarinic receptor subtypes in different brain regions of rats treated with fluoxetine or propranolol in a model of post-traumatic stress disorder. Behav. Brain Res. 232: 124-129.
9. Zhao, Q., 2012. Chotosan ameliorates cognitive and emotional deficits in an animal model of type 2 diabetes: possible involvement of cholinergic and VEGF/PDGF mechanisms in the brain. BMC Complement. Altern. Med. 12: 188.

RESEARCH USE

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