SANTA CRUZ BIOTECHNOLOGY, INC.

mAChR M3 (H-210): sc-9108

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.

CHROMOSOMAL LOCATION

Genetic locus: CHRM3 (human) mapping to 1q43; Chrm3 (mouse) mapping to 13 A1.

SOURCE

mAChR M3 (H-210) is a rabbit polyclonal antibody raised against amino acids 271-480 of mAChR M3 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 M3 (H-210) is recommended for detection of mAChR M3 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), immunohistochemistry (including paraffin-embedded sections) (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 M3 (H-210) is also recommended for detection of mAChR M3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for mAChR M3 siRNA (h): sc-35833, mAChR M3 siRNA (m): sc-35834, mAChR M3 shRNA Plasmid (h): sc-35833-SH, mAChR M3 shRNA Plasmid (m): sc-35834-SH, mAChR M3 shRNA (h) Lentiviral Particles: sc-35833-V and mAChR M3 shRNA (m) Lentiviral Particles: sc-35834-V.

Molecular Weight of mAChR M3: 75 kDa.

Positive Controls: Mouse brain extract: sc-2253 or BC_3H1 cell lysate: sc-2299.

RESEARCH USE

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

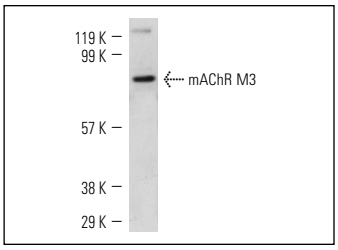
PROTOCOLS

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

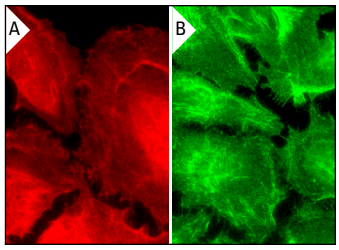
STORAGE

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

DATA



mAChR M3 (H-210): sc-9108. Western blot analysis of mAChR M3 expression in mouse brain tissue extract.



mAChR M3 (H-210): sc-9108. Immunofluorescence staining of formalin-fixed HeLa cells showing membrane localization (**A**,**B**).

SELECT PRODUCT CITATIONS

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3. Song, P., et al. 2007. M3 muscarinic receptor antagonists inhibit small cell lung carcinoma growth and mitogen-activated protein kinase phosphorylation induced by acetylcholine secretion. Cancer Res. 67: 3936-3944.
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. 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.
6. Cabadak, H., et al. 2010. Regulation of M2, M3, and M4 muscarinic receptor expression in K562 chronic myelogenous leukemic cells by carbachol. J. Recept. Signal Transduct. Res. 31: 26-32.
7. 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.
8. Lugea, A., et al. 2010. Cholinergic mediation of alcohol-induced experimental pancreatitis. Alcohol. Clin. Exp. Res. 34: 1768-1781.
9. Zhang, Y., et al. 2011. Activation of M3 muscarinic receptors inhibits T-type Ca^{2+} channel currents via pertussis toxin-sensitive novel protein kinase C pathway in small dorsal root ganglion neurons. Cell. Signal. 23: 1057-1067.
10. Lin, X., et al. 2011. An autoimmunized mouse model recapitulates key features in the pathogenesis of Sjögren's syndrome. Int. Immunol. 23: 613-624.
11. 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.