SANTA CRUZ BIOTECHNOLOGY, INC.

mAChR M3 (H-20): sc-31486

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.
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.

CHROMOSOMAL LOCATION

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

SOURCE

mAChR M3 (H-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain 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.

Blocking peptide available for competition studies, sc-31486 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

PROTOCOLS

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

APPLICATIONS

mAChR M3 (H-20) is recommended for detection of mAChR M3 of human and, to a lesser extent, mouse and rat 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 M3 (H-20) is also recommended for detection of mAChR M3 in additional species, including equine, canine, bovine and porcine.

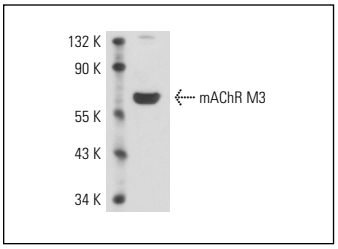
Suitable for use as control antibody for mAChR M3 siRNA (h): sc-35833, mAChR M3 siRNA (m): sc-35834, mAChR M3 shRNA Plasmid (h): sc-35833-SH, mAChR M3 shRNA Plasmid (m): sc-35834-SH, mAChR M3 shRNA (h) Lentiviral Particles: sc-35833-V and mAChR M3 shRNA (m) Lentiviral Particles: sc-35834-V.

Molecular Weight of mAChR M3: 75 kDa.

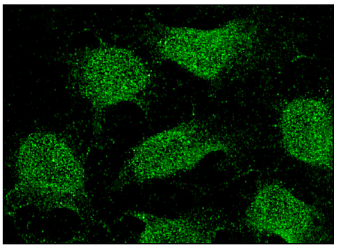
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



mAChR M3 (H-20): sc-31486. Western blot analysis of mAChR M3 expression in BC_3H1 whole cell lysate.



mAChR M3 (H-20): sc-31486. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Darabid, H., et al. 2013. Glial cells decipher synaptic competition at the mammalian neuromuscular junction. J. Neurosci. 33: 1297-1313.

RESEARCH USE

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