

mAChR M1 (G-9): sc-365966

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

SOURCE

mAChR M1 (G-9) is a mouse monoclonal antibody raised against amino acids 231-350 of mAChR M1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

mAChR M1 (G-9) is available conjugated to agarose (sc-365966 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365966 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365966 PE), fluorescein (sc-365966 FITC), Alexa Fluor[®] 488 (sc-365966 AF488), Alexa Fluor[®] 546 (sc-365966 AF546), Alexa Fluor[®] 594 (sc-365966 AF594) or Alexa Fluor[®] 647 (sc-365966 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-365966 AF680) or Alexa Fluor[®] 790 (sc-365966 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

mAChR M1 (G-9) 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.

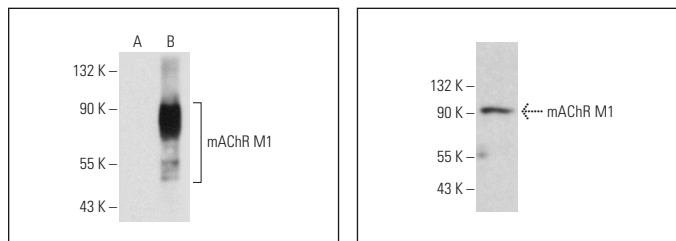
Molecular Weight of mAChR M1: 52 kDa.

Positive Controls: mAChR M1 (h5): 293 Lysate: sc-158705, SK-BR-3 cell lysate: sc-2218 or rat heart extract: sc-2393.

STORAGE

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

DATA



mAChR M1 (G-9): sc-365966. 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 (G-9): sc-365966. Western blot analysis of mAChR M1 expression in SK-BR-3 whole cell lysate.

SELECT PRODUCT CITATIONS

- Sabbir, M.G., et al. 2018. Muscarinic acetylcholine type 1 receptor activity constrains neurite outgrowth by inhibiting microtubule polymerization and mitochondrial trafficking in adult sensory neurons. *Front. Neurosci.* 12: 402.
- Soltani Zangbar, H., et al. 2020. A potential entanglement between the spinal cord and hippocampus: θ rhythm correlates with neurogenesis deficiency following spinal cord injury in male rats. *J. Neurosci. Res.* 98: 2451-2467.
- Soltani Zangbar, H., et al. 2021. Hippocampal neurodegeneration and rhythms mirror each other during acute spinal cord injury in male rats. *Brain Res. Bull.* 172: 31-42.
- El-Mezayen, N.S., et al. 2022. Vitamin B12 as a cholinergic system modulator and blood brain barrier integrity restorer in Alzheimer's disease. *Eur. J. Pharm. Sci.* 174: 106201.
- Marsango, S., et al. 2022. The M1 muscarinic receptor is present *in situ* as a ligand-regulated mixture of monomers and oligomeric complexes. *Proc. Natl. Acad. Sci. USA* 119: e2201103119.
- Carew, J.A., et al. 2022. Myosin 5a in the urinary bladder: localization, splice variant expression, and functional role in neurotransmission. *Front. Physiol.* 13: 890102.
- Toan, N.K., et al. 2022. Ascorbic acid induces salivary gland function through TET2/acetylcholine receptor signaling in aging SAMP1/Klotho^{-/-} mice. *Aging* 14: 6028-6046.
- Qian, X.H., et al. 2022. Injection of Amyloid- β to lateral ventricle induces gut microbiota dysbiosis in association with inhibition of cholinergic anti-inflammatory pathways in Alzheimer's disease. *J. Neuroinflammation* 19: 236.
- Cai, S., et al. 2023. Transcriptomic analysis of the upper lip and primary palate development in mice. *Front. Genet.* 13: 1039850.

RESEARCH USE

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