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Product Information

Anti-Muscarinic Acetylcholine Receptor M_3
produced in rabbit, affinity isolated antibody

Catalog Number **M9568**

Product Description

Anti-Muscarinic Acetylcholine Receptor M_3 is produced in rabbit using as immunogen a synthetic peptide conjugated to KLH. The synthetic peptide is from the third extracellular loop of rat m3 (Accession P08483).. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Muscarinic Acetylcholine Receptor M_3 specifically recognizes rat muscarinic acetylcholine receptor M_3 by immunohistochemistry with formalin-fixed, paraffin-embedded tissues. Other species reactivity has not been confirmed.

Muscarinic receptors are members of the G protein-coupled receptor family. Five subtypes (M_1-M_5) of muscarinic receptors have been identified. M_1, M_2 and M_3 activate phospholipases A2, C or D, or tyrosine kinase and M_4 and M_5 attenuate adenylate cyclase or augment phospholipase A2.

Muscarinic receptors are expressed throughout the CNS with M_2 receptors enriched in the cerebellum, pons/medulla and thalamus/hypothalamus whereas M_1 receptors are enriched in hippocampus, striatum and olfactory tubule. M_3 receptor is expressed in brain, eye, and heart. ESTs have been isolated from brain, colon, fetus, lung, and prostate libraries.

Muscarinic receptors have various presynaptic and postsynaptic effects that are important in both information processing and plastic changes in CNS function. The M_3 subtype triggers contraction through an interaction with G(q) proteins to stimulate phosphoinositide hydrolysis and mobilize Ca^{2+}. In contrast, activation of M_2 receptors modulates contraction by preventing relaxation or by potentiating M_3 receptor-mediated contractions, which enhances heterologous desensitization.

Anticholinergic agents are the most widely used therapy for urge incontinence. M_3-receptors appear to be the most functionally important and mediate direct contraction of the detrusor muscle

Reagent

Lyophilized from phosphate buffered saline, pH 7.4, containing 1% BSA, and 0.05% sodium azide as a preservative.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation

Reconstitute with 50 µL of sterile deionized water. The resulting concentration will be 0.8 mg/mL.

Storage/Stability

For long-term storage, store at -20 °C for up to 12 months after date of receipt. For extended storage of reconstituted material, in undiluted working aliquots, freeze at -20 °C for up to six months. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended

Product Profile

Immunoblotting: 1:2,000 using ECL on rat brain lysate. Dilutions should be made using a carrier protein such as BSA (1-3%)

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

References

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2. Shi, H., et al., The M_3 receptor-mediated K^+ current (IKM3), a G(q) protein-coupled K^+ channel., *J. Biol. Chem.*, **279**, 21774-21778 (2004).

3. Ehlert, F. J., Pharmacological analysis of the contractile role of M_2 and M_3 muscarinic receptors in smooth muscle. *Receptors Channels*., **9**, 261-277 (2003).

4. Chapple, C. R., Muscarinic receptor subtypes and management of the overactive bladder. *Urology*, **60**, (Suppl 1), 82-88 (. 2002).

This product manufactured by MBL International.

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