

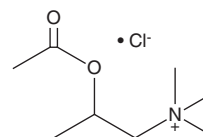
PRODUCT INFORMATION



Acetyl-β-methylcholine (chloride)

Item No. 23092

CAS Registry No.:	62-51-1
Formal Name:	2-(acetyloxy)-N,N,N-trimethyl-1-propanaminium, monochloride
Synonym:	Methacholine
MF:	C ₈ H ₁₈ NO ₂ • Cl
FW:	195.7
Purity:	≥95%
UV/Vis.:	λ _{max} : 210 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Acetyl-β-methylcholine (chloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the acetyl-β-methylcholine (chloride) in the solvent of choice. Acetyl-β-methylcholine (chloride) is soluble in the organic solvent DMSO, which should be purged with an inert gas, at a concentration of approximately 0.1 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of acetyl-β-methylcholine (chloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of acetyl-β-methylcholine (chloride) in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Acetyl-β-methylcholine is a muscarinic (M) receptor agonist.¹ In wild-type mice, acetyl-β-methylcholine decreases heart rate and blood pressure and increases the airway pressure time index, a measure of bronchoconstriction, in a dose-dependent manner. Cardiac and pulmonary responses are abolished in M₂ and M₃ knockout mice, respectively, suggesting that acetyl-β-methylcholine acts on cardiac M₂ and pulmonary M₃ receptors. Formulations containing acetyl-β-methylcholine have been used to diagnose asthma and to monitor response to asthma therapies.²

References

1. Fisher, J.T., Vincent, S.G., Gomez, J., *et al.* Loss of vagally mediated bradycardia and bronchoconstriction in mice lacking M₂ or M₃ muscarinic acetylcholine receptors. *FASEB J.* **18(67)**, 711-713 (2004).
2. Choi, S.H., Sheen, Y.H., Kim, M.A., *et al.* Clinical implications of oscillatory lung function during methacholine bronchoprovocation testing of preschool children. *Biomed. Res. Int.* **2017**, 1-9 (2017).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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