

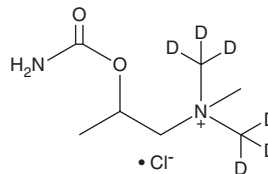
PRODUCT INFORMATION



Bethanechol-d₆ (chloride)

Item No. 33299

Formal Name: 2-[(aminocarbonyl)oxy]-N-methyl-N,N-di(methyl-d₃)-1-propanaminium, monochloride
Synonym: (±)-Bethanechol-d₆
MF: C₇H₁₁D₆N₂O₂ • Cl
FW: 202.7
Chemical Purity: ≥98% (Bethanechol)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₆); ≤1% d₀
Supplied as: A 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

Bethanechol-d₆ (chloride) is intended for use as an internal standard for the quantification of bethanechol (Item No. 23830) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Bethanechol-d₆ (chloride) is supplied as a solid. A stock solution may be made by dissolving the bethanechol-d₆ (chloride) in the solvent of choice, which should be purged with an inert gas. Bethanechol-d₆ (chloride) is soluble in the organic solvent DMSO.

Description

Bethanechol is an agonist of muscarinic acetylcholine receptors with IC₅₀ values of 1,837, 25, 631, 317, and 393 μM for M₁₋₅, respectively, in a radioligand binding assay using CHO cells expressing the human receptors.¹ It inhibits M₂-mediated increases in cyclic AMP induced by isoproterenol (Item No. 15592) in isolated guinea pig small intestine (IC₅₀ = 127 μM).² Bethanechol increases basal tone of isolated porcine intravesical ureter (EC₅₀ = 4.27 μM).³ It also induces fluid secretion in the ileum, duodenum, and jejunum of anesthetized rats when administered at a dose of 60 μg/kg.⁴ Formulations containing bethanechol have been used to increase urination and improve smooth muscle tone in the gastrointestinal tract.

References

1. Richards, M.H. and van Giersbergen, P.L. Human muscarinic receptors expressed in A9L and CHO cells: Activation by full and partial agonists. *Br. J. Pharmacol.* **114(6)**, 1241-1249 (1995).
2. Okamoto, H., Prestwich, S.A., Asai, S., et al. Muscarinic agonist potencies at three different effector systems linked to the M₂ or M₃ receptor in longitudinal smooth muscle of guinea-pig small intestine. *Br. J. Pharmacol.* **135(7)**, 1765-1775 (2002).
3. Hernández, M., Simonsen, U., Prieto, D., et al. Different muscarinic receptor subtypes mediating the phasic activity and basal tone of pig isolated intravesical ureter. *Br. J. Pharmacol.* **110(4)**, 1413-1420 (1993).
4. Young, A. and Levin, R.J. Intestinal hypersecretion of the refed starved rat: A model for alimentary diarrhoea. *Gut* **33(8)**, 1050-1056 (1992).

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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