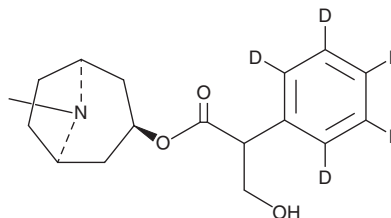


PRODUCT INFORMATION



Atropine-d₅ Item No. 30734

CAS Registry No.: 2124269-77-6
Formal Name: α-(hydroxymethyl)-benzene-2,3,4,5,6-d₅-acetic acid, (3-endo)-8-methyl-8-azabicyclo[3.2.1]oct-3-yl ester
Synonyms: DL-Hyoscyamine-d₅, Tropine tropate-d₅
MF: C₁₇H₁₈D₅NO₃
FW: 294.4
Chemical Purity: ≥95% (Atropine)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₅); ≤1% d₀
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Synthetic



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

Laboratory Procedures

Atropine-d₅ is intended for use as an internal standard for the quantification of atropine (Item No. 12008) 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).

Atropine-d₅ is supplied as a solid. A stock solution may be made by dissolving the atropine-d₅ in the solvent of choice, which should be purged with an inert gas. Atropine-d₅ is slightly soluble in chloroform, ethanol, and methanol.

Description

Atropine is a tropane alkaloid that has been found in *A. belladonna* and acts as a non-selective, competitive antagonist of muscarinic acetylcholine receptors ($K_{BS} = 0.16-1.26$ nM for the M₁-M₅ receptors).^{1,2} Atropine increases firing of the sinoatrial node and conduction through the atrioventricular node of the heart, opposes the actions of the vagus nerve, blocks acetylcholine receptor sites, and decreases bronchial secretions.³ Formulations containing atropine have been used to induce mydriasis for ophthalmological exams and in the treatment of cardiac arrest and organophosphate pesticide or muscarinic mushroom poisoning.

References

1. Sharp, J.M. and Doran, P.M. Characteristics of growth and tropane alkaloid synthesis in *Atropa belladonna* roots transformed by *Agrobacterium rhizogenes*. *J. Biotechnol.* **16(3-4)**, 171-185 (1990).
2. Caulfield, M.P. and Birdsall, N.J.M. International Union of Pharmacology. XVII. Classification of muscarinic acetylcholine receptors. *Pharmacol. Rev.* **50(2)**, 279-290 (1998).
3. Broadley, K.J. and Kelly, D.R. Muscarinic receptor agonists and antagonists. *Molecules* **6(3)**, 142-193 (2001).

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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