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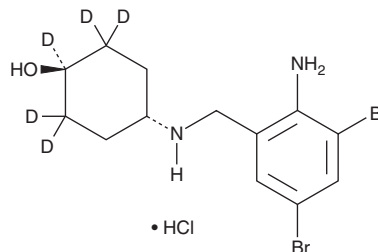
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PRODUCT INFORMATION



Ambroxol-d₅ (hydrochloride) Item No. 38335

CAS Registry No.: 2741380-71-0
Formal Name: *trans*-4-[[[(2-amino-3,5-dibromophenyl)methyl]amino]-cyclohexanol-d₅, monohydrochloride
MF: C₁₃H₁₃Br₂D₅N₂O • HCl
FW: 419.6
Chemical Purity: ≥95% (Ambroxol)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₅); ≤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

Ambroxol-d₅ (hydrochloride) is intended for use as an internal standard for the quantification of ambroxol (Item No. 19377) 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).

Ambroxol-d₅ (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the ambroxol-d₅ (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Ambroxol-d₅ (hydrochloride) is soluble in methanol and DMSO.

Description

Ambroxol is an expectorant and active metabolite of bromhexine.¹ It inhibits the voltage-gated sodium channel Na_v1.2 in isolated dorsal root neurons (IC₅₀ = 110 μM for the rat channel).² Ambroxol decreases short-circuit currents in electrically stimulated isolated canine tracheal epithelial cells when applied submucosally (IC₅₀ = 60 nM).³ It decreases IL-13-induced production of mucin 5AC (MUC5AC) in primary human airway epithelial cells when used at a concentration of 100 μM and inhibits IL-13-induced decreases in the mucociliary transport rate of endogenous particles in the same cells.⁴ Ambroxol (30, 60, or 120 mg/kg) increases phenol red secretion, a marker of expectorant activity, in mice.⁵ Formulations containing ambroxol have been used in the treatment of acute or chronic respiratory conditions.

References

1. Malerba, M. and Ragnoli, B. *Expert Opin. Drug Metab. Toxicol.* **4(8)**, 1119-1129 (2008).
2. Weiser, T. *Neurosci. Lett.* **395(3)**, 179-184 (2006).
3. Tamaoki, J., Chiyotani, A., Yamauchi, F., et al. *J. Pharm. Pharmacol.* **43(12)**, 841-843 (1991).
4. Seagrave, J., Albrecht, H.H., Hill, D.B., et al. *Respir. Res.* **13(1)**, 98 (2012).
5. Menezes, P.M.N., Brito, M.C., Sousa de Sá, P.G., et al. *J. Pharmacol. Toxicol. Methods* **98**, 106586 (2019).

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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