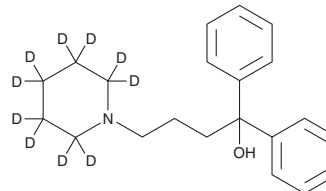


PRODUCT INFORMATION



Diphenidol-d₁₀ Item No. 33979

CAS Registry No.: 2928181-97-7
Formal Name: α,α -diphenyl-1-piperidine-2,2,3,3,4,4,5,5,6,6-d₁₀-butanol
MF: C₂₁H₁₇D₁₀NO
FW: 319.5
Chemical Purity: $\geq 98\%$ (Diphenidol)
Deuterium Incorporation: $\geq 99\%$ deuterated forms (d₁-d₁₀); $\leq 1\%$ 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

Diphenidol-d₁₀ is intended for use as an internal standard for the quantification of diphenidol (Item No. 18674) 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).

Diphenidol-d₁₀ is supplied as a solid. A stock solution may be made by dissolving the diphenidol-d₁₀ in the solvent of choice, which should be purged with an inert gas. Diphenidol-d₁₀ is soluble in DMSO and methanol.

Description

Diphenidol is an antagonist of muscarinic acetylcholine receptors (mAChRs; K_is = 0.43, 2.8, 1.1, 0.91, and 1.28 μ M in CHO cell membranes expressing M₁₋₅ receptors, respectively).¹ It also inhibits K_v channels in Neuro2A cells (IC₅₀ = 28.2 μ M), as well as L-type voltage-gated calcium channels in differentiated NG 108-15 cells in a concentration-dependent manner.³ Microiontophoretic application of diphenidol inhibits rotation-induced firing of medial vestibular nucleus neurons in a cat model of vertigo.² Diphenidol (3.2 mg/kg, i.v.) prevents apomorphine-induced emesis in dogs.⁴ Formulations containing diphenidol have been used in the treatment of vertigo and as antiemetics.

References

1. Varoli, L., Andreani, A., Burnelli, S., *et al.* Diphenidol-related diamines as novel muscarinic M₄ receptor antagonists. *Bioorg. Med. Chem. Lett.* **18(9)**, 2972-2976 (2008).
2. Kawabata, A., Sasa, M., Kishimoto, T., *et al.* Effects of anti-vertigo drugs on medial vestibular nucleus neurons activated by horizontal rotation. *Jpn. J. Pharmacol.* **55(1)**, 101-106 (1991).
3. Leung, Y.M., Wong, K.L., Cheng, K.S., *et al.* Inhibition of voltage-gated K⁺ channels and Ca²⁺ channels by diphenidol. *Pharmacol. Rep.* **64(3)**, 739-744 (2012).
4. Nakayama, H., Yamakuni, H., Nakayama, A., *et al.* Diphenidol has no actual broad antiemetic activity in dogs and ferrets. *J. Pharmacol. Sci.* **96(3)**, 301-306 (2004).

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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