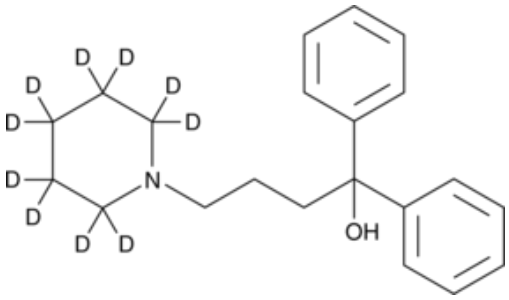
Product Data Sheet

Product Name: Diphenidol-d10
Cat. No.: GC49129

Chemical Properties

Cas. No.	2928181-97-7		
SMILES	OC(C1=CC=CC=C1)(CCCN2C([2H])([2H])C([2H])([2H])C([2H])([2H])C([2H])([2H])C2([2H])[2H])C3=CC=CC=C3		
Formula	C21H17D10NO	M.Wt	319.5
Solubility	DMSO: soluble,Methanol: soluble	Storage	-20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		

Structure



Background

Diphenidol-d_{10} is intended for use as an internal standard for the quantification of diphenidol by GC- or LC-MS. Diphenidol is an antagonist of muscarinic acetylcholine receptors (mAChRs; K_is = 0.43, 2.8, 1.1, 0.91, and 1.28 µM in CHO cell membranes expressing M_{1-5} receptors, respectively).[1] It also inhibits K_V channels in Neuro2A cells (IC_{50} = 28.2 µM), as well as L-type voltage-gated calcium channels in differentiated NG 108-15 cells in a concentration-dependent manner.[2] Microiontophoretic application of diphenidol inhibits rotation-induced firing of medial vestibular nucleus neurons in a cat model of vertigo.[3] 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.

Caution: Product has not been fully validated for medical applications. For research use only.
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1.Varoli, L., Andreani, A., Burnelli, S., et al.Diphenidol-related diamines as novel muscarinic M4 receptor antagonistsBioorg. Med. Chem. Lett.18(9)2972-2976(2008) 2.Leung, Y.M., Wong, K.L., Cheng, K.S., et al.Inhibition of voltage-gated K+ channels and Ca2+ channels by diphenidolPharmacol. Rep.64(3)739-744(2012) 3.Kawabata, A., Sasa, M., Kishimoto, T., et al.Effects of anti-vertigo drugs on medial vestibular nucleus neurons activated by horizontal rotationJpn. J. Pharmacol.55(1)101-106(1991) 4.Nakayama, H., Yamakuni, H., Nakayama, A., et al.Diphenidol has no actual broad antiemetic activity in dogs and ferretsJ. Pharmacol. Sci.96(3)301-306(2004)

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