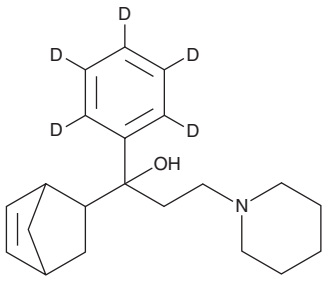
PRODUCT INFORMATION

Biperiden-d_5

Item No. 33469

CAS Registry No.: 2938691-75-7
Formal Name: α-bicyclo[2.2.1]hept-5-en-2-yl-(α-phenyl-d_5)-1-piperidinepropanol
MF: $C_{21}H_{24}D_5NO$
FW: 316.5
Chemical Purity: ≥98% (Biperiden)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_5); ≤1% d_0
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

Biperiden-d_5 is intended for use as an internal standard for the quantification of biperiden 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).

Biperiden-d_5 is supplied as a solid. A stock solution may be made by dissolving the biperiden-d_5 in the solvent of choice, which should be purged with an inert gas. Biperiden-d_5 is soluble in acetonitrile, DMSO, and methanol.

Description

Biperiden is an antagonist of muscarinic acetylcholine receptors (mAChRs; IC_{50}s = 0.48, 6.3, 3.9, 2.4, and 6.3 nM for $M_{1\text{-}5}$ receptors, respectively).[1] It increases spontaneous and electrically evoked dopamine release and electrically evoked acetylcholine (ACh) release from rabbit caudate nucleus slices preincubated with dopamine.[2] Biperiden (10 µM) also inhibits NMDA-induced ACh release in rabbit caudate nucleus slices.[3] Biperiden (0.01-1.0 mg/kg) reduces physostigmine-induced tremor in rats.[4] Formulations containing biperiden have been used as an adjuvant treatment for Parkinson's disease.

References

1. Bolden, C., Cusack, B., and Richelson, E. Antagonism by antimuscarinic and neuroleptic compounds at the five cloned human muscarinic cholinergic receptors expressed in Chinese hamster ovary cells. *J. Pharmacol. Exp. Ther.* **260(2)**, 576-580 (1992).
2. Jackisch, R., Huang, H.Y., Reimann, W., *et al.* Effects of the antiparkinsonian drug budipine on neurotransmitter release in central nervous system tissue *in vitro*. *J. Pharmacol. Exp. Ther.* **264(2)**, 889-898 (1993).
3. Jackisch, R., Kruchen, A., Sauermann, W., *et al.* The antiparkinsonian drugs budipine and biperiden are use-dependent (uncompetitive) NMDA receptor antagonists. *Eur. J. Pharmacol.* **264(2)**, 207-211 (1994).
4. Gothóni, P., Lehtinen, M., and Fincke, M. Drugs for Parkinson's disease reduce tremor induced by physostigmine. *Naunyn Schmiedebergs Arch. Pharmacol.* **323(3)**, 205-210 (1983).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM