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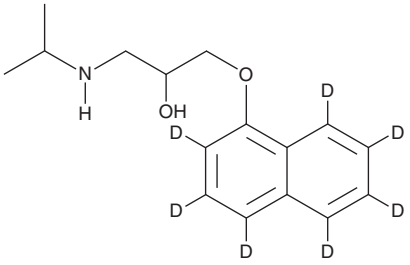
PRODUCT INFORMATION

(±)-Propranolol-d_7

Item No. 25282

CAS Registry No.:	344298-99-3
Formal Name:	1-[(1-methylethyl)amino]-3-(1-naphthalenyl-2,3,4,5,6,7,8-d_7-oxy)-2-propanol
MF:	$C_{16}H_{14}D_7NO_2$
FW:	266.4
Chemical Purity:	≥98% (Propranolol)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_7); ≤1% d_0
Supplied as:	A solid
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

(±)-Propranolol-d_7 is intended for use as an internal standard for the quantification of propranolol (Item Nos. 23349 | 17291) 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).

(±)-Propranolol-d_7 is supplied as a solid. A stock solution may be made by dissolving the (±)-propranolol-d_7 in the solvent of choice. (±)-Propranolol-d_7 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of (±)-propranolol-d_7 in ethanol and DMSO is approximately 30 mg/ml and approximately 50 mg/ml in DMF.

Description

(±)-Propranolol is a β-adrenergic receptor (β-AR) antagonist (K_ds = 6.91, 0.832, and 117.49 nM for human β_1-, β_2-, and β_3-ARs, respectively).[1] It reduces mean blood pressure, resting heart rate, and contractility and increases AV conduction time in dogs.[2] (±)-Propranolol restores normal sinus rhythm in dogs with ouabain-induced arrhythmias (ED_{50} = 3.8 mg/kg).[3] It also acts as a non-specific serotonin receptor antagonist, reducing tranylcypromine/L-tryptophan-induced hyperactivity in rats.[4] Formulations containing (±)-propranolol have been used for the treatment of hypertension, angina pectoris, and cardiac ischemia.

References

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2. Fitzgerald, J.D. and O'Donnell, S.R. A comparison of the haemodynamic effects of propranolol, 4-hydroxypropranolol and practolol in anaesthetized dogs. *Br. J. Pharmacol.* **45(2)**, 207-217 (1972).
3. Basil, B., Jordan, R., Loveless, A.H., *et al.* A comparison of the experimental anti-arrhythmic properties of acebutolol (M and B 17,803), propranolol and practolol. *Br. J. Pharmacol.* **50(3)**, 323-333 (1974).
4. Costain, D.W. and Green, A.R. β-Adrenoceptor antagonists inhibit the behavioural responses of rats to increased brain 5-hydroxytryptamine. *Br. J. Pharmacol.* **64(2)**, 193-200 (1978).

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