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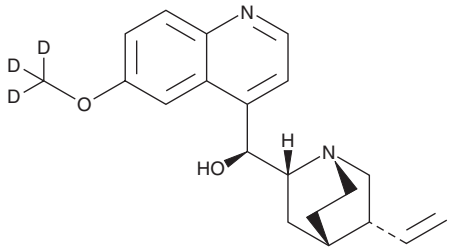
PRODUCT INFORMATION

Quinidine-d_3

Item No. 28884

CAS Registry No.:	1267657-68-0
Formal Name:	6′-(methoxy-d_3)-cinchonan-9S-ol
Synonyms:	(+)-Quinidine-d_3, β-Quinidine-d_3
MF:	$C_{20}H_{21}D_3N_2O_2$
FW:	327.4
Chemical Purity:	≥95% (Quinidine)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_3); ≤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

Quinidine-d_3 is intended for use as an internal standard for the quantification of quinidine (Item No. 20356) 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).

Quinidine-d_3 is supplied as a solid. A stock solution may be made by dissolving the quinidine-d_3 in the solvent of choice, which should be purged with an inert gas. Quinidine-d_3 is slightly soluble in chloroform and methanol.

Description

Quinidine is a stereoisomer of the antimalarial agent quinine (Item No. 23958) and a class Ia antiarrhythmic agent.[1,2] Quinidine blocks the voltage-gated sodium (Na_v) channel $Na_v1.5$ in a use-dependent manner.[1] It decreases the amplitude and duration of action potentials in isolated canine ventricular myocytes.[3] Quinidine inhibits K_{Kr}, peak I_{Na}, and late I_{Na} (IC_{50}s = 4.5, 11, and 12 µM, respectively) and can induce torsade de pointes in isolated rabbit hearts when used at a concentration of 1 µM.[2] It induces QT prolongation in dogs.[4] Quinidine also binds to M_2 muscarinic acetylcholine receptors (K_i = 7.5 µM for human recombinant receptors expressed in HM2-B10 cells).[5] Formulations containing quinidine have been used in the treatment of atrial fibrillation and ventricular arrhythmias.

References

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3. Salata, J.J. and Wasserstrom, J.A. Effects of quinidine on action potentials and ionic currents in isolated canine ventricular myocytes. *Circ. Res.* **62(2)**, 324-337 (1988).
4. Rakhit, A., Guentert, T.W., Holford, N.H.G., *et al.* Pharmacokinetics and pharmacodynamics of quinidine and its metabolite, quinidine-N-oxide, in beagle dogs. *Eur. J. Drug Metab. Pharmacokinet.* **9(4)**, 315-324 (1984).
5. Kovacs, I., Yamamura, H.I., Waite, S.L., *et al.* Pharmacological comparison of the cloned human and rat M_2 muscarinic receptor genes expressed in the murine fibroblast (B82) cell line. *J. Pharmacol. Exp. Ther.* **284(2)**, 500-507 (1998).

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