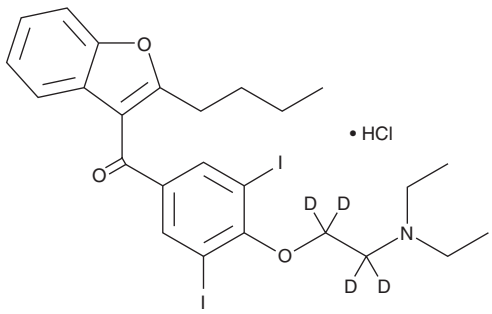
PRODUCT INFORMATION

Amiodarone-d_4 (hydrochloride)

Item No. 10010668

CAS Registry No.: 1216715-80-8
Formal Name: (2-butylbenzofuran-3-yl)(4-(2-(diethylamino)ethoxy-1,1,2,2-d_4)-3,5-diiodophenyl)methanone, monohydrochloride
MF: $C_{25}H_{25}D_4I_2NO_3 \bullet HCl$
FW: 685.8
Chemical Purity: ≥98% (Amiodarone)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_4); ≤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

Amiodarone-d_4 (hydrochloride) is intended for use as an internal standard for the quantification of amiodarone (Item No. 15213) 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).

Amiodarone-d_4 (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the amiodarone-d_4 (hydrochloride) in the solvent of choice. Amiodarone-d_4 (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of amiodarone-d_4 (hydrochloride) in ethanol is approximately 5 mg/ml and approximately 10 mg/ml in DMSO and DMF.

Description

Amiodarone is a class III antiarrhythmic agent, in that it prolongs both cardiac action potential and refractoriness by blocking potassium currents.[1] It inhibits the voltage-gated potassium channel hERG, also known as KCNH2, with an IC_{50} value of 1 µM.[2] In addition, amiodarone binds with high affinity to the sigma-1 opioid receptor, 3-β-hydroxysteroid $\Delta^8\Delta^7$ isomerase, and C-8 sterol isomerase (K_is = 1, 25, and 62 nM, respectively) and inhibits human thyroid hormone receptors α and β (IC_{50}s = 0.6 and 0.65 µM, respectively).[3,4] It also inhibits the cytochrome P450 (CYP) isoforms CYP2C8 and CYP3A4 *in vitro* at low micromolar concentrations.[5]

References

1. Campbell, T.J. and Williams, K.M. *Br. J. Clin. Pharmacol.* **46(4)**, 307-319 (1998).
2. Sinha, N. and Sen, S. *Eur. J. Med. Chem.* **46(2)**, 618-630 (2011).
3. Laggner, C., Schieferer, C., Fiechtner, B., *et al. J. Med Chem.* **48(15)**, 4754-4764 (2005).
4. Carlsson, B., Singh, B.N., Temciuc, M., *et al. J. Med Chem.* **45(3)**, 623-630 (2002).
5. Polasek, T.M., Elliott, D.J., Lewis, B.C., *et al. J. Pharmacol. Exp. Ther.* **311(3)**, 996-1007 (2004).

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