

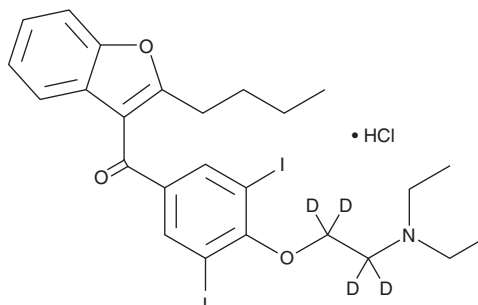
# PRODUCT INFORMATION



## Amiodarone-d<sub>4</sub> (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<sub>4</sub>)-3,5-diiodophenyl)methanone,  
monohydrochloride  
**MF:** C<sub>25</sub>H<sub>25</sub>D<sub>4</sub>I<sub>2</sub>NO<sub>3</sub> • HCl  
**FW:** 685.8  
**Chemical Purity:** ≥98% (Amiodarone)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>4</sub>); ≤1% d<sub>0</sub>  
**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

Amiodarone-d<sub>4</sub> (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<sub>4</sub> (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the amiodarone-d<sub>4</sub> (hydrochloride) in the solvent of choice. Amiodarone-d<sub>4</sub> (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<sub>4</sub> (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.<sup>1</sup> It inhibits the voltage-gated potassium channel hERG, also known as KCNH2, with an IC<sub>50</sub> value of 1 μM.<sup>2</sup> In addition, amiodarone binds with high affinity to the sigma-1 opioid receptor, 3-β-hydroxysteroid Δ<sup>8</sup>Δ<sup>7</sup> isomerase, and C-8 sterol isomerase (K<sub>s</sub> = 1, 25, and 62 nM, respectively) and inhibits human thyroid hormone receptors α and β (IC<sub>50</sub>s = 0.6 and 0.65 μM, respectively).<sup>3,4</sup> It also inhibits the cytochrome P450 (CYP) isoforms CYP2C8 and CYP3A4 *in vitro* at low micromolar concentrations.<sup>5</sup>

### 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).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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