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## Product Data Sheet

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Product Name: Ivabradine D3 Hydrochloride

Cat. No.: GC30434

### Chemical Properties

Cas. No. 1217809-61-4

SMILES [H]Cl.COC1=C(OC)C=C(CCN(CCCN(C([2H])([2H])[2H])C[C@@H]2C(C=C(OC)C(OC)=C3)=C3C2)C(C4)=O)C4=C1

Formula  $C_{27}H_{34}D_3ClN_2O_5$  M.Wt 508.06

Solubility DMSO: Slightly Soluble, Methanol: Slightly Soluble Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure

### Background

Ivabradine-d<sub>3</sub> is intended for use as an internal standard for the quantification of ivabradine by GC- or LC-MS. Ivabradine is a hyperpolarization-activated cyclic nucleotide-gated (HCN) channel blocker that blocks the mixed sodium/potassium inward funny current (I<sub>f</sub>) in HEK293 cells expressing mouse HCN1, human HCN2, and human HCN4 (EC<sub>50</sub>s = 4.5, 4.52, and 4.28 μM, respectively).<sup>1</sup> *In vivo*, ivabradine (10 mg/kg per day) reduces heart rate, incidence of ventricular tachycardia and ventricular fibrillation, and arrhythmic mortality in a rat model of myocardial infarction.<sup>2</sup> Formulations containing ivabradine have been used in the treatment of heart failure and angina.

1. Melchiorre, M., Del Lungo, M., Guandalini, L., et al. Design, synthesis, and preliminary biological evaluation of new isoform-selective f-current blockers. *J. Med. Chem.* 53(18):6773-6777 (2010)

2. Mackiewicz, U., Gerges, J.Y., Chu, S., et al. Ivabradine protects against ventricular arrhythmias in acute myocardial infarction in the rat. *Cell Physiol.* 229(6):813-823 (2014)

**Caution: Product has not been fully validated for medical applications. For research use only.**

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