

PRODUCT INFORMATION



Ivabradine-d₃ (hydrochloride) Item No. 25711

CAS Registry No.: 1217809-61-4
Formal Name: (S)-3-(3-(((3,4-dimethoxybicyclo[4.2.0]octa-1(6),2,4-trien-7-yl)methyl)(methyl-d₃)amino)propyl)-7,8-dimethoxy-1,3,4,5-tetrahydro-2H-benzo[d]azepin-2-one, monohydrochloride

MF: C₂₇H₃₃D₃N₂O₅ • HCl
FW: 508.1

Chemical Purity: ≥98% (Ivabradine)

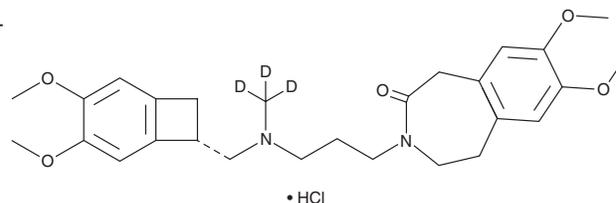
Deuterium

Incorporation: ≥99% deuterated forms (d₁-d₃); ≤1% d₀

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

Ivabradine-d₃ (hydrochloride) is intended for use as an internal standard for the quantification of ivabradine (Item No. 15868) 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).

Ivabradine-d₃ (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the ivabradine-d₃ (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Ivabradine-d₃ (hydrochloride) is slightly soluble in DMSO and methanol.

Description

Ivabradine is a hyperpolarization-activated cyclic nucleotide-gated (HCN) channel blocker that blocks the mixed sodium/potassium inward funny current (I_f) in HEK293 cells expressing mouse HCN1, human HCN2, and human HCN4 (EC₅₀s = 4.5, 4.52, and 4.28 μM, respectively).¹ *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.² Formulations containing ivabradine have been used in the treatment of heart failure and angina.

References

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. *J. Cell Physiol.* **229**(6), 813-823 (2014).

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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