

Product Data Sheet

Product Name: Ivabradine HCl

Cat. No.: GC10194

Chemical Properties

Cas. No. 148849-67-6

Chemical Name 3-[3-[[[(7S)-3,4-dimethoxy-7-bicyclo[4.2.0]octa-1,3,5-trienyl]methyl-methylamino]propyl]-7,8-dimethoxy-2,5-dihydro-1H-3-benzazepin-4-one;hydrochloride

SMILES CN(CCCN1CCC2=CC(=C(C=C2CC1=O)OC)OC)CC3CC4=CC(=C(C=C34)OC)OC.Cl

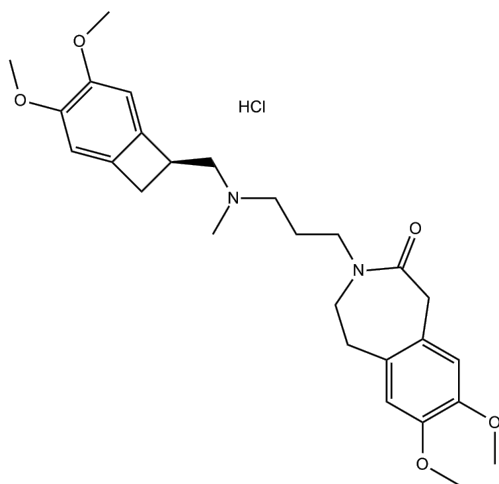
Formula C27H37ClN2O5 M.Wt 505.05

Solubility $\geq 25.25\text{mg/mL}$ in DMSO 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 hydrochloride is an orally bioavailable, hyperpolarization-activated, cyclic nucleotide-gated (HCN) channel blocker.

Ivabradine hydrochloride treatment (10 mg/kg/d) induces long-term HRR, and that improves diastolic LV function probably involving attenuated hypoxia, reduced remodeling, and/or preserved nitric oxide

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

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bioavailability, resulting from processes triggered early after HRR initiation: angiogenesis and/or preservation of endothelial nitric oxide synthase expression[1]. Ivabradine hydrochloride leads to a sustained 15-20% heart rate reduction, but has no effect on blood pressure. While ivabradine has no effect on endothelial function and vascular reactive oxygen species production in angiotensin II-treated rats, it improves both parameters in ApoE knockout mice. Ivabradine hydrochloride treatment leads to an attenuation of angiotensin II signaling and increased the expression of telomere-stabilizing proteins in ApoE knockout mice, which may explain its beneficial effects on the vasculature. The absence of these protective ivabradine effects in angiotensin II-infused rats may relate to the treatment duration or the presence of arterial hypertension[2].

References:

- [1]. Fang, Y., et al. Heart rate reduction induced by the if current inhibitor ivabradine improves diastolic function and attenuates cardiac tissue hypoxia. J Cardiovasc Pharmacol, 2012. 59(3): p. 260-7.
- [2]. Kroller-Schon, S., et al. Differential effects of heart rate reduction with ivabradine in two models of endothelial dysfunction and oxidative stress. Basic Res Cardiol, 2011. 106(6): p. 1147-58.

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