

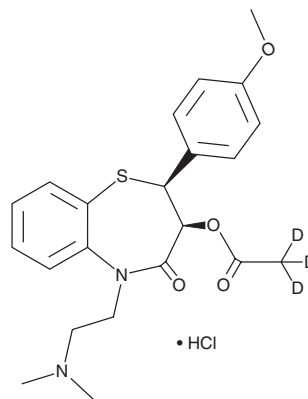
PRODUCT INFORMATION



Diltiazem-d₃ (hydrochloride)

Item No. 39981

CAS Registry No.: 1217860-13-3
Formal Name: (2S,3S)-3-(acetyloxy-d₃)-5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(4-methoxyphenyl)-1,5-benzothiazepin-4(5H)-one, monohydrochloride
Synonym: (+)-*cis*-Diltiazem-d₃
MF: C₂₂H₂₃D₃N₂O₄S • HCl
FW: 454.0
Chemical Purity: ≥98% (Diltiazem (hydrochloride))
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

Diltiazem-d₃ (hydrochloride) is intended for use as an internal standard for the quantification of diltiazem 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).

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

Description

Diltiazem is an L-type calcium channel inhibitor.^{1,2} It inhibits stretch-induced calcium release in H9c2 rat cardiomyocytes when used at concentrations ranging from 10-1,000 μM.¹ *In vivo*, diltiazem (100 mg/kg) inhibits angiotensin II-induced increases in systolic blood pressure and aortic aneurysm formation in *ApoE*^{-/-} mice.² It reduces myocardial apoptosis, increases blood flow in ischemic myocardium, and reduces arrhythmias in a dog model of ischemia and reperfusion-induced myocardial infarction.³ Formulations containing diltiazem have been used in the treatment of hypertension and angina.

References

1. Takahashi, K., Hayashi, S., Miyajima, M., *et al.* L-type calcium channel modulates mechanosensitivity of the cardiomyocyte cell line H9c2. *Cell Calcium* **79**, 68-74 (2019).
2. Mieth, A., Revermann, M., Babelova, A., *et al.* L-type calcium channel inhibitor diltiazem prevents aneurysm formation by blood pressure-independent anti-inflammatory effects. *Hypertension* **62**(6), 1098-1104 (2013).
3. Chaffman, M. and Brogden, R.N. Diltiazem. A review of its pharmacological properties and therapeutic efficacy. *Drugs* **29**(5), 387-454 (1985).

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.

WARRANTY AND LIMITATION OF REMEDY

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