

PRODUCT INFORMATION



Amlodipine-d₄ (maleate)

Item No. 25035

CAS Registry No.: 1185246-15-4
Formal Name: 2-[(2-aminoethoxy-1,1,2,2-d₄)methyl]-4-(2-chlorophenyl)-1,4-dihydro-6-methyl-3,5-pyridinedicarboxylic acid, 3-ethyl 5-methyl ester, 2-butenedioate

MF: C₂₀H₂₁ClD₄N₂O₅ • C₄H₄O₄
FW: 529.0

Chemical Purity: ≥95% (Amlodipine)

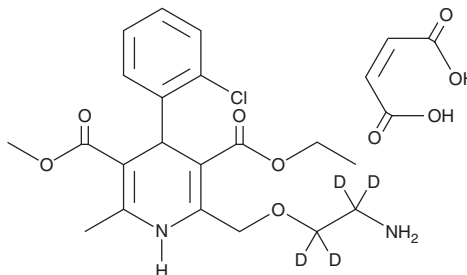
Deuterium

Incorporation: ≥99% deuterated forms (d₁-d₄); ≤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

Amlodipine-d₄ is intended for use as an internal standard for the quantification of amlodipine (Item No. 14838) 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).

Amlodipine-d₄ (maleate) is supplied as a solid. A stock solution may be made by dissolving the amlodipine-d₄ (maleate) in the solvent of choice, which should be purged with an inert gas. Amlodipine-d₄ (maleate) is soluble in the organic solvent DMSO at a concentration of approximately 30 mg/ml.

Description

Amlodipine is a dihydropyridine L-type calcium channel blocker that selectively inhibits calcium influx in cardiac and vascular smooth muscle.¹ Acting as a vasodilator, amlodipine reduces blood pressure by relaxing the smooth muscle in the arterial wall, decreasing total peripheral resistance. It inhibits calcium-induced contractions in depolarized rat aorta with an IC₅₀ value of 1.9 nM, displaying a slow rate of association and dissociation in isolated vascular and cardiac tissues.¹ Amlodipine also demonstrates actions independent of L-type calcium channel blockade by regulating membrane fluidity and cholesterol deposition, stimulating nitric oxide production, acting as an antioxidant, and regulating matrix deposition *in vitro* and *in vivo*.² Formulations containing amlodipine have been used in the treatment of hypertension.

References

1. Burges, R.A., Gardiner, D.G., Gwilt, M., *et al.* Calcium channel blocking properties of amlodipine in vascular smooth muscle and cardiac muscle *in vitro*: Evidence for voltage modulation of vascular dihydropyridine receptors. *J. Cardiovasc. Pharmacol.* **9(1)**, 110-119 (1987).
2. Mason, R.P., Marche, P., and Hintze, T.H. Novel vascular biology of third-generation L-type calcium channel antagonists: Ancillary actions of amlodipine. *Arterioscler. Thromb. Vasc. Biol.* **23(12)**, 2155-2163 (2003).

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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