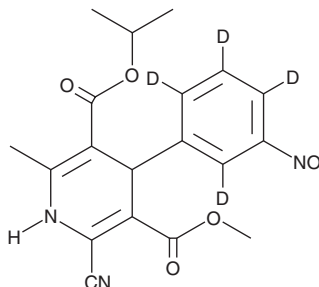


PRODUCT INFORMATION



Nilvadipine-d₄ Item No. 33700

CAS Registry No.: 2928067-26-7
Formal Name: 2-cyano-1,4-dihydro-6-methyl-4-(3-nitrophenyl-d₄)-3,5-pyridinedicarboxylic acid, 3-methyl 5-(1-methylethyl) ester
Synonym: (±)-Nilvadipine-d₄
MF: C₁₉H₁₅D₄N₃O₆
FW: 389.4
Chemical Purity: ≥95% (Nilvadipine)
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

Nilvadipine-d₄ is intended for use as an internal standard for the quantification of nilvadipine (Item No. 21243) 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).

Nilvadipine-d₄ is supplied as a solid. A stock solution may be made by dissolving the nilvadipine-d₄ in the solvent of choice, which should be purged with an inert gas. Nilvadipine-d₄ is soluble in methanol, DMSO, and dimethyl formamide.

Description

Nilvadipine is a dihydropyridine L-type calcium channel blocker.¹ It is selective for L-type over N-, P/Q-, and R-type calcium channels at 10 μM. Nilvadipine (10 mg/kg per day, p.o.) inhibits increases in systolic blood pressure induced by chronic intravenous infusion of the peptide vasoconstrictor endothelin in rats.² It decreases cortical and hippocampal amyloid-β burden in the APPsw (Tg2576) and PS1/APPsw transgenic mouse models of Alzheimer's disease when administered at a dose of 0.03% (w/w) in the diet for 17 and 10 months, respectively.³ Nilvadipine (3.2 mg/kg, s.c.) reduces infarct volume in a rat model of focal cerebral ischemia induced by middle cerebral artery occlusion (MCAO).⁴

References

1. Furukawa, T., Yamakawa, T., Midera, T., *et al.* Selectivities of dihydropyridine derivatives in blocking Ca²⁺ channel subtypes expressed in *Xenopus* oocytes. *J. Pharmacol. Exp. Ther.* **291**(2), 464-473 (1999).
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3. Paris, D., Bachmeier, C., Patel, N., *et al.* Selective antihypertensive dihydropyridines lower Aβ accumulation by targeting both the production and the clearance of Aβ across the blood-brain barrier. *Mol. Med.* **17**(3-4), 149-162 (2011).
4. Kawamura, S., Yasui, N., Shirasawa, M., *et al.* Effects of a Ca²⁺ entry blocker (nilvadipine) on acute focal cerebral ischemia in rats. *Exp. Brain Res.* **83**(2), 434-438 (1991).

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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