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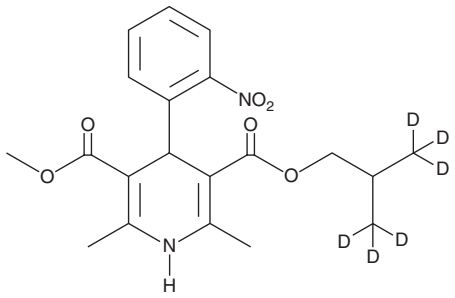
PRODUCT INFORMATION

Nisoldipine-d_6

Item No. 31785

CAS Registry No.: 1285910-03-3
Formal Name: 3-methyl 5-(2-(methyl-d_3)propyl-3,3,3-d_3) 2,6-dimethyl-4-(2-nitrophenyl)-1,4-dihydropyridine-3,5-dicarboxylate
MF: $C_{20}H_{18}D_6N_2O_6$
FW: 394.5
Chemical Purity: ≥98% (Nisoldipine)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_6); ≤1% d_0
Supplied as: A solid
Storage: -20°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Nisoldipine-d_6 is intended for use as an internal standard for the quantification of nisoldipine (Item No. 20998) 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).

Nisoldipine-d_6 is supplied as a solid. A stock solution may be made by dissolving the nisoldipine-d_6 in the solvent of choice, which should be purged with an inert gas. Nisoldipine-d_6 is soluble in the organic solvent acetonitrile.

Description

Nisoldipine is a calcium channel inhibitor.[1] It binds to calcium channels in isolated rat ventricular membranes (K_d = 0.04 nM) and inhibits calcium uptake by smooth muscle cells.[1,2] Nisoldipine inhibits acetylcholine-induced contraction of isolated rabbit coronary arteries (IC_{50} = 0.03 nM).[1] *In vivo*, nisoldipine (3 mg/kg) reduces ventricular tachycardia and fibrillization and increases survival in a rat model of ventricular arrhythmias induced by myocardial ischemia.[3] Dietary administration of nisoldipine (50-100 mg/kg) reduces systolic blood pressure in spontaneously hypertensive rats.[4] Formulations containing nisoldipine have been used in the treatment of hypertension.

References

1. Knorr, A. The pharmacology of nisoldipine. *Cardiovasc. Drugs Ther.* **1(4)**, 393-402 (1987).
2. Janis, R.A., Shrikhande, A.V., Greguski, R., *et al.* Review of nisoldipine binding studies. *Nisoldipine 1987*. Hugenholtz, P.G., and Meyer, J., editors, 1st edition, *Springer-Verlag* (1987).
3. Fagbemi, O. and Parratt, J.R. Suppression by orally-administered nifedipine, nisoldipine and niludipine of early, life-threatening ventricular arrhythmias resulting from acute myocardial ischaemia. *Br. J. Pharmacol.* **74(1)**, 12-14 (1981).
4. Stasch, J.-P., Kazda, S., Hirth, C., et al. Role of nisoldipine on blood pressure, cardiac hypertrophy, and atrial natriuretic peptides in spontaneously hypertensive rats. *Hypertension* **10(3)**, 303-307 (1987).

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