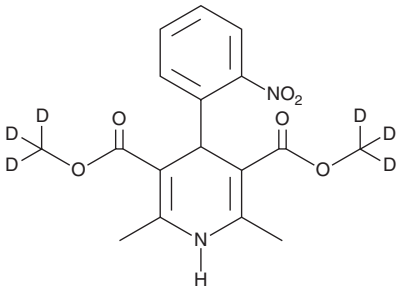
PRODUCT INFORMATION

Nifedipine-d_6

Item No. 25510

CAS Registry No.:	1188266-14-9
Formal Name:	1,4-dihydro-2,6-dimethyl-4-(2-nitrophenyl)-3,5-pyridinedicarboxylic acid 3,5-di(methyl-d_3) ester
MF:	$C_{17}H_{12}D_6N_2O_6$
FW:	352.4
Chemical Purity:	≥95% (Nifedipine)
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

Nifedipine-d_6 is intended for use as an internal standard for the quantification of nifedipine (Item No. 11106) 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).

Nifedipine-d_6 is supplied as a solid. A stock solution may be made by dissolving the nifedipine-d_6 in the solvent of choice, which should be purged with an inert gas. Nifedipine-d_6 is slightly soluble in chloroform and methanol.

Description

Nifedipine is a dihydropyridine L-type calcium channel blocker that reduces the amplitude of spontaneous contractions in isolated rabbit ileum when used at a concentration of 1 µM.[1] Nifedipine (1 µM) reduces TGF-β-induced calcium oscillations in human fibroblasts and prevents impairment of lung function in a mouse model of pulmonary fibrosis induced by bleomycin (Item No. 13877) when administered at a dose of 10 mg/kg per day.[2] It also reduces increases in mean arterial blood pressure induced by angiotensin II (Item No. 17150) in spontaneously hypertensive rats when administered at a dose of 10 µg/kg.[3] Formulations containing nifedipine have been used in the treatment of hypertension and angina.

References

1. Ragy, M. and Elbassuoni, E. The role of nitric oxide and L-type calcium channel blocker in the contractility of rabbit ileum *in vitro*. *J. Physiol. Biochem.* **68(4)**, 521-528 (2012).
2. Mukherjee, S., Ayaub, E., Murphy, J., *et al.* Disruption of calcium signaling in fibroblasts and attenuation of bleomycin-induced fibrosis by nifedipine. *Am. J. Respir. Cell Mol. Biol.* **53(4)**, 450-458 (2015).
3. Aritomi, S., Konda, T., and Yoshimura, M. L/N-type calcium channel blocker suppresses reflex aldosterone production induced by antihypertensive action. *Heart Vessels* **27(4)**, 419-423 (2012).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM