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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

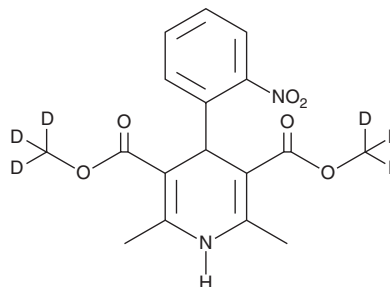
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PRODUCT INFORMATION



Nifedipine-d₆ 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-d₃) ester
MF: C₁₇H₁₂D₆N₂O₆
FW: 352.4
Chemical Purity: ≥95% (Nifedipine)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₆); ≤1% d₀
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-d₆ 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-d₆ is supplied as a solid. A stock solution may be made by dissolving the nifedipine-d₆ in the solvent of choice, which should be purged with an inert gas. Nifedipine-d₆ 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).

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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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