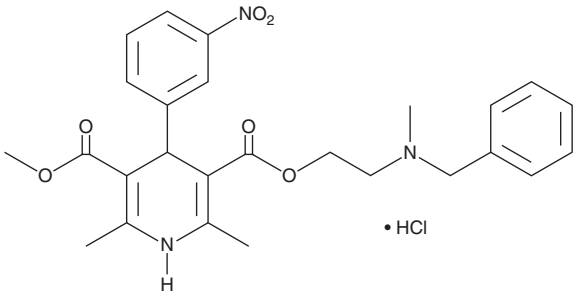
PRODUCT INFORMATION

Nicardipine (hydrochloride)

Item No. 17537

CAS Registry No.: 54527-84-3
Formal Name: 1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-3,5-pyridinedicarboxylic acid, 3-methyl 5-[2-[methyl(phenylmethyl)amino] ethyl] ester, monohydrochloride
Synonym: RS 69216
MF: $C_{26}H_{29}N_3O_6 \bullet HCl$
FW: 516.0
Purity: ≥98%
UV/Vis.: λ_{max}: 236, 352 nm
Supplied as: A crystalline 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

Nicardipine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the nicardipine (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Nicardipine (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of nicardipine (hydrochloride) in ethanol is approximately 1 mg/ml and approximately 20 mg/ml in DMSO and DMF.

Nicardipine (hydrochloride) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, nicardipine (hydrochloride) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Nicardipine (hydrochloride) has a solubility of approximately 0.25 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Nicardipine is a dihydropyridine L-type calcium channel antagonist that displays antihypertensive and antianginal activity.[1] It is reported to inhibit adenosine A_1, A_{2A}, and A_3 receptors with K_i values of 19.6, 63.8, and 3.25 µM, respectively, and can inhibit cytochrome P450 3A4 catalytic activity with an IC_{50} value of 0.148 µM.[2,3] Additionally, nicardipine has been shown to activate transient receptor potential A1 channels, producing an increase in Ca^{2+} (EC_{50} = 0.5 µM).[4]

References

1. Triggle, D.J. and Rampe, D. 1,4-Dihydropyridine activators and antagonists: Structural and functional distinctions. *Trends Pharmacol. Sci.* **10(12)**, 507-511 (1989).
2. van Rhee, A.M., Jiang, J.L., Melman, N., *et al*. Interaction of 1,4-dihydropyridine and pyridine derivatives with adenosine receptors: Selectivity for A_3 receptors. *J. Med. Chem.* **39(15)**, 2980-2989 (1996).
3. Stresser, D.M., Blanchard, A.P., Turner, S.D., *et al*. Substrate-dependent modulation of CYP3A4 catalytic activity: Analysis of 27 test compounds with four fluorometric substrates. *Drug Metab. Dispos.* **28(12)**, 1440-1448 (2000).
4. Baraldi, P.G., Preti, D., Materazzi, S., *et al*. Transient receptor potential ankyrin 1 (TRPA1) channel as emerging target for novel analgesics and anti-inflammatory agents. *J. Med. Chem.* **53(14)**, 5085-5107 (2010).

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