

Product Name: (R)-(-)-Niguldipine hydrochloride

Catalog No.: 1124

Batch No.: 1

CAS Number: 113145-70-3

IUPAC Name: (R)-1,4-Dihydro-2,6-dimethyl-4-(3-nitrophenyl)-3,5-pyridinedicarboxylic acid, 3-(4,4-diphenyl-1-piperidinyl)propyl methyl ester hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₃₆H₃₉N₃O₆·HCl·¾H₂O

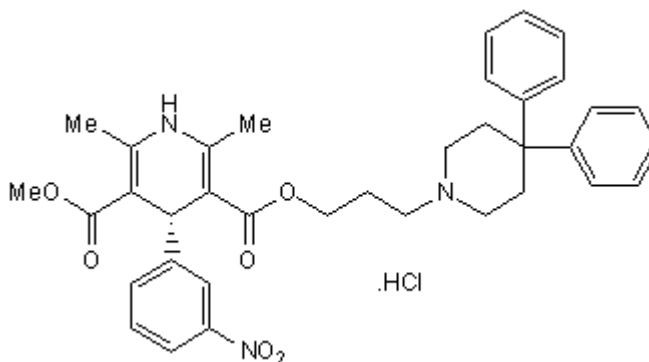
Batch Molecular Weight: 659.6914

Physical Appearance: Yellow solid

Solubility: water to 10 mM

Storage: Desiccate at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.5 (Pyridine:Acetic acid:Water:Butanol [3:8:11:33])

Melting Point: Between 150 - 153°C

¹H NMR: Consistent with structure

Optical Rotation: [α]_D = -14 (Concentration = 1, Solvent = MeOH)

Microanalysis:

	Carbon	Hydrogen	Nitrogen		
Theoretical	65.54	6.34	6.36	0	0
Found	65.48	6.22	6.35	0	0

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Description:

L-type Ca²⁺ channel blocker and α_{1A}-adrenoceptor antagonist; less active enantiomer. (S)-(+)-Niguldipine hydrochloride (Cat. No. 1123) also available.

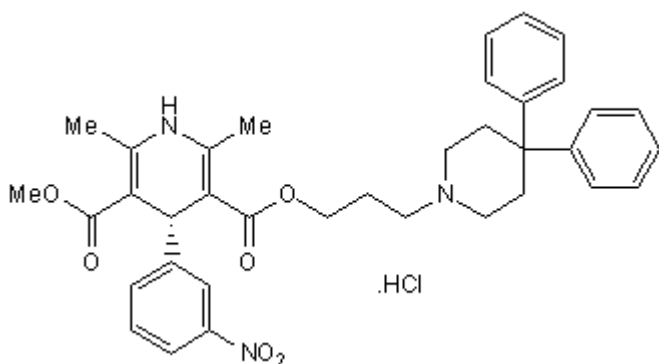
Physical and Chemical Properties:

Batch Molecular Formula: C₃₆H₃₉N₃O₆.HCl.¾H₂O

Batch Molecular Weight: 659.6914

Physical Appearance: Yellow solid

Batch Molecular Structure:



Storage: Desiccate at -20°C

Solubility & Usage Info:

water to 10 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Boer et al (1989) (+)-Niguldipine binds with very high affinity to Ca²⁺ channels and to a subtype of alpha₁-adrenoceptor. *Eur.J.Pharmacol.* **172** 131. PMID: 2548881.

Graziadei et al (1989) Stereoselective binding of niguldipine enantiomers to alpha_{1A}-adrenoceptors labeled with [³H]5-methyl-urapidil. *Eur.J.Pharmacol.* **172** 329. PMID: 2555206.

Hollt et al (1992) Stereoisomers of calcium antagonists which differ markedly in their potencies as calcium blockers are equally effective in modulating drug transport by P-glycoprotein. *Biochem.Pharmacol.* **43** 2601. PMID: 1352973.

Wetzel et al (1995) Discovery of alpha_{1a}-adrenergic receptor antagonists based on the L-type Ca²⁺ channel antagonist niguldipine. *J.Med.Chem.* **38** 1579. PMID: 7752182.

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