

Certificate of Analysis

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Product Name: Benidipine hydrochloride

Catalog No.: 3934

Batch No.: 1

CAS Number: 91599-74-5

IUPAC Name: (4*R*)-*re*-1,4-Dihydro-2,6-dimethyl-4-(3-nitrophenyl)-3,5-pyridinedicarboxylic acid 3-methyl 5-[(3*R*)-1-(phenylmethyl)-3-piperidiny] ester hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₈H₃₁N₃O₆·HCl

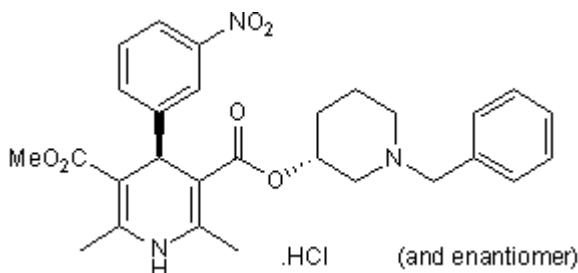
Batch Molecular Weight: 542.02

Physical Appearance: Yellow solid

Solubility: DMSO to 75 mM
ethanol to 10 mM

Storage: Desiccate at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.5% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	62.04	5.95	7.75
Found	61.84	5.95	7.76

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

Product Information

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Description:

Orally active antihypertensive agent which displays a wide range of activities in vitro and in vivo. Inhibits L-, N- and T-type Ca²⁺ channels. Also inhibits aldosterone-induced mineralocorticoid receptor activation. Exhibits cardioprotective and antiatherosclerotic effects.

Physical and Chemical Properties:

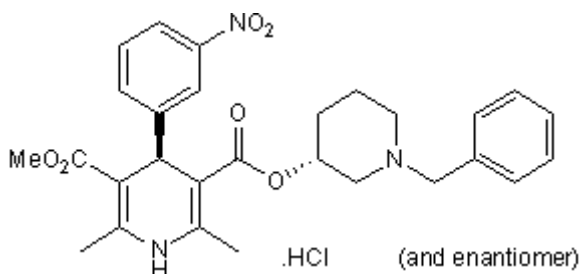
Batch Molecular Formula: C₂₈H₃₁N₃O₆.HCl

Batch Molecular Weight: 542.02

Physical Appearance: Yellow solid

Minimum Purity: >99%

Batch Molecular Structure:



Storage: Desiccate at RT

Solubility & Usage Info:

DMSO to 75 mM
ethanol 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:

Yao *et al* (2006) Pharmacological, pharmacokinetic, and clinical properties of benidipine hydrochloride, a novel long-acting calcium channel blocker. *J.Pharmacol.Sci.* **100** 243. PMID: 16565579.

Kosaka *et al* (2010) The L-, N-, T-type triple calcium channel blocker benidipine acts as an antagonist of mineralocorticoid receptor, a member of nuclear receptor family. *Eur.J.Pharmacol.* **635** 49. PMID: 20307534.

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