

**Product Name:** Amlodipine besylate

**Catalog No.:** 2571

**Batch No.:** 1

**CAS Number:** 111470-99-6

**IUPAC Name:** 2-[(2-Aminoethoxy)methyl]-4-(2-chlorophenyl)-1,4-dihydro-6-methyl-3,5-pyridinedicarboxylic acid 3-ethyl 5-methyl ester benzenesulfonate

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:**  $C_{20}H_{25}ClN_2O_5 \cdot C_6H_6O_3S$

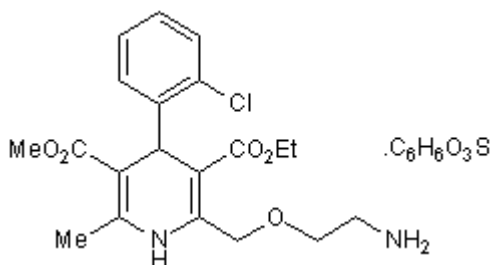
**Batch Molecular Weight:** 567.05

**Physical Appearance:** White solid

**Solubility:**  
water to 10 mM  
DMSO to 100 mM  
ethanol to 50 mM

**Storage:** Store at RT

**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**Melting Point:** Between 199 - 203°C

**HPLC:** Shows 99.4% purity

**<sup>1</sup>H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	55.07	5.51	4.94
Found	55.18	5.47	4.95

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USA & CANADA Tel: (800) 343-7475 EUROPE Tel: +44 (0)1235 529449 CHINA Tel: +86 (21) 52380373  
www.RnDSystems.com

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**Description:**

L-type calcium channel blocker that displays antihypertensive properties. Inhibits Ca<sup>2+</sup>-induced contractions in depolarized rat aorta (IC<sub>50</sub> = 1.9 nM) and displays vasoprotective effects in cardiovascular disease. Inhibits proliferation of human vascular smooth muscle cells and epidermoid carcinoma A431 cells (IC<sub>50</sub> = 25 µM).

**Physical and Chemical Properties:**

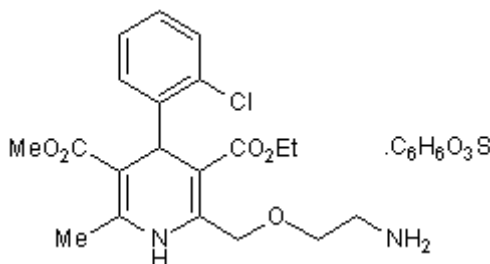
Batch Molecular Formula: C<sub>20</sub>H<sub>25</sub>ClN<sub>2</sub>O<sub>5</sub>·C<sub>6</sub>H<sub>6</sub>O<sub>3</sub>S

Batch Molecular Weight: 567.05

Physical Appearance: White solid

**Minimum Purity:** >99%

**Batch Molecular Structure:**



**Storage:** Store at RT

**Solubility & Usage Info:**

water to 10 mM  
DMSO to 100 mM  
ethanol to 50 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:**

**Burges *et al*** (1987) Calcium channel blocking properties of amlodipine in vascular smooth muscle and cardiac muscle in vitro: evidence for voltage modulation of vascular dihydropyridine receptors. *J.Cardiovasc.Pharmacol.* **9** 110. PMID: 2434785.

**Yoshida *et al*** (2003) Antiproliferative effect of Ca<sup>2+</sup> channel blockers on human epidermoid carcinoma A431 cells. *Eur.J.Pharmacol.* **472** 23. PMID: 12860469.

**Toba *et al*** (2005) Calcium channel blockades exhibit anti-inflammatory and antioxidative effects by augmentation of endothelial nitric oxide synthase and the inhibition of angiotensin converting enzyme in the N<sup>G</sup>-nitro-L-arginine methyl ester-induced hypertensive rat aorta: vasoprotective effects beyond the blood pressure-lowering effects of amlodipine and manidipine. *Hypertens.Res.* **28** 689. PMID: 16392774.

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