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Print Date: Jan 15th 2016

Certificate of Analysis

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Product Name: **Mevastatin** **Catalog No.: 1526** **Batch No.: 1**

CAS Number: 73573-88-3

IUPAC Name: (2*S*)-2-Methyl-(1*S*,7*S*,8*S*,8a*R*)-1,2,3,7,8,8a-hexahydro-7-methyl-8-[2-[(2*R*,4*R*)-tetrahydro-4-hydroxy-6-oxo-2*H*-pyran-2-yl]ethyl]-1-naphthalenyl butanoate

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{23}H_{34}O_5$

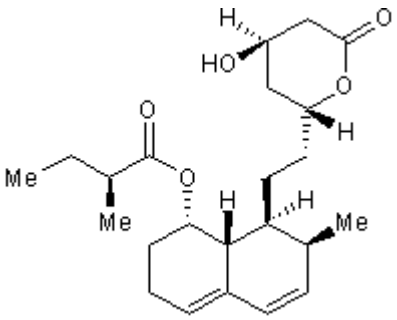
Batch Molecular Weight: 390.52

Physical Appearance: White crystalline solid

Solubility: ethanol to 25 mM with gentle warming
DMSO to 50 mM with gentle warming

Storage: Store at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.61 (Pyridine:Acetic acid:Water:Butanol [3:8:11:33])

Melting Point: Between 151 - 158°C

HPLC: Shows >99% purity

^{1}H NMR: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	70.74	8.78	
Found	70.54	8.89	

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Description:

Inhibitor of HMG-CoA reductase; decreases cholesterol biosynthesis, in vitro and in vivo. Induces apoptosis, arrests cancer cells in G1 phase and downregulates cdk 2, 4, and 6, cyclin D1 and E1, p21 and p27. Inactive lactam prodrug of mevastatin hydroxy acid, naturally bioactivated in vivo following oral administration.

Physical and Chemical Properties:

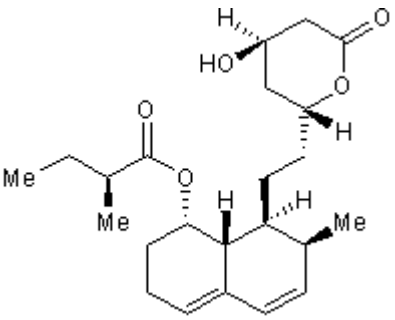
Batch Molecular Formula: $C_{23}H_{34}O_5$

Batch Molecular Weight: 390.52

Physical Appearance: White crystalline solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Store at RT

Solubility & Usage Info:

ethanol to 25 mM with gentle warming
DMSO to 50 mM with gentle warming

PLEASE NOTE - Mevastatin is an inactive lactam prodrug of mevastatin hydroxy acid the active form of the compound. Mevastatin administered orally is naturally bioactivated by the liver and requires no further modification. If mevastatin is to be administered by another route or used in vitro then it requires manual activation by treatment with NaOH. To activate the compound dissolve 50mg in 1ml of warm (50°C) ethanol and add 0.813ml of 1N NaOH. Leave for 30 minutes to allow conversion of the mevastatin to the active acid form, the compound may be stored at -20°C in this format for up to 1 month. Adjust pH to 7.2 with small quantities of 1N HCl prior to use.

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:

Cohen *et al* (1984) Effects of compactin, mevalonate and low-density lipoprotein on 3-hydroxy-3-methylglutaryl-coenzyme A reductase activity and low-density lipoprotein-receptor activity in the human hepatoma cell line Hep G2. Biochem.J. ***222*** 35. PMID: 6089762.

Wachtershauser *et al* (2001) HMG-CoA reductase inhibitor mevastatin enhances the growth inhibitory effect of butyrate in the colorectal carcinoma cell line Caco-2. Carcinogenesis ***22*** 1061. PMID: 11408350.

Amin-Hanjani *et al* (2001) Mevastatin, an HMG-CoA reductase inhibitor, reduces stroke damage and upregulates endothelial nitric oxide synthase in mice. Stroke ***32*** 980. PMID: 11283400.

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