

Product Information

MEVASTATIN

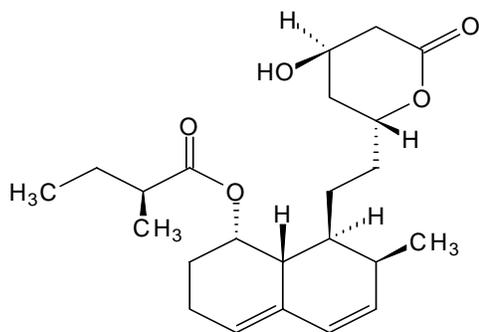
Product Number **M2537**

Storage Temperature 2-8°C

CAS #: 73573-88-3

Synonyms: compactin, (+)-compactin, antibiotic ML 236B, ML 236B

Product Description



Appearance: white powder

Molecular Formula: C₂₃H₃₄O₅

Formula Weight: 390.5

For Specifications, see Catalog

Mevastatin, an antibiotic, is a potent competitive inhibitor of hydroxymethylglutaryl-CoA reductase, the rate-limiting enzyme in cholesterol biosynthesis.^{1,2}

Mevastatin has been shown to cause apoptosis of myeloma cells, macrophages and osteoclasts. It appears that this is due to mevastatin's inhibition of post-translational prenylation of proteins such as Ras.³⁻⁶ Prenylation of Ras is required for its proper membrane binding and targeting.⁷ Similarly, a Ras-like GTPase, Rho, negatively regulates eNOS (endothelial nitric oxide synthase) expression, but mevastatin (1 – 10 μM) increases eNOS mRNA and protein levels. It does this by blocking Rho geranylgeranylation which is necessary for Rho's membrane-associated activity.⁸

Mevastatin also inhibits myoblast fusion.⁹⁻¹¹ Myoblasts must fuse in order to form multinucleated myotubes. These myotubes go on to develop into muscle fibers. Fusion is accompanied by biochemical differentiation characterized by an increase in the expression of a number of different enzymes, in particular creatine phosphokinase. Mevastatin at concentrations as low as 0.25 μM reduced the creatine phosphokinase activity of myoblast cells, reduced the number of N-linked cell surface glycoproteins, and inhibited the incorporation of mannose from GDP-mannose into lipid-sugar and N-linked glycoprotein.¹¹ The conclusion is that mevastatin inhibits myoblast fusion by affecting the synthesis of intermediates needed for the production of the fusogenic cell surface N-linked glycoproteins. It should be noted that the fusion of the myoblasts is restored when the mevastatin is removed.¹¹

Precautions and Disclaimer

Please consult the Material Safety Data Sheet for handling recommendations before working with this material.

Preparation Instructions

Mevastatin is soluble in ethanol at 25 mg/mL and in DMSO at 25 mg/mL.

Storage/Stability

Store the powder at 2-8°C.

References

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alc 02/10/99

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