Natural Products

ChemFaces

Lovastatin Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Lovastatin

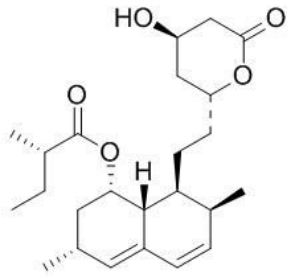
Catalog No.: CFN99961

Cas No.: 75330-75-5

Purity: >=98%

M.F: $C_{24}H_{36}O_5$

M.W: 404.54



Physical Description: Powder

Synonyms:(1S,3R,7S,8S,8aR)-8-{2-[(2R,4R)-4-hydroxy-6-oxotetrahydro-2H-pyran-2-yl]ethyl}-3,7-dimethyl-1,2,3,7,8,8a-hexahydronaphthalen-1-yl (2S)-2-methylbutanoate.

[Intended Use]

1. Reference standards;
2. Pharmacological research;
3. Synthetic precursor compounds;
4. Intermediates & Fine Chemicals;
5. Others.

[Source]

From *Aspergillus terreus.*

[Biological Activity or Inhibitors]

Lovastatin reduces the risk for the first acute major coronary event in men and women with average total cholesterol (TC) and low-density lipoprotein cholesterol (LDL-C) levels and below-average high-density lipoprotein cholesterol (HDL-C) levels, these findings support the inclusion of HDL-C in risk-factor assessment, confirm the benefit of LDL-C reduction to a target goal, and suggest the need for reassessment of the National Cholesterol Education Program guidelines regarding pharmacological intervention.[1]

Lovastatin can potentiate the chemopreventive effects of sulindac against colon neoplasia in a rodent model and augments apoptosis induced by 5-FU and cisplatin in human colon cancer cells; lovastatin induces morphologic changes and apoptosis by inhibiting geranylgeranylation of small GTPases of the rho family and thereby inactivating them.[2]

Lovastatin, an inhibitor of the enzyme 3-hydroxy-3-methylglutaryl-coenzyme A reductase (the major regulatory enzyme of the mevalonate pathway of cholesterol synthesis), displays antitumor activity in experimental models. [3]

Lovastatin has a direct cellular effect independent of a cholesterol-lowering effect and delays the onset and progression of diabetic nephropathy, at least in part, through suppression of glomerular expression of Transforming growth factor-beta (TGF-beta)1.[4]

[Solvent]

Chloroform, Dichloromethane, Ethyl Acetate, DMSO, Acetone, etc.

[HPLC Method][5]

Mobile phase: 0.05 M Phosphate buffer (pH 7)- Acetonitrile =44.5 : 55.5 ;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 238 nm.

[Storage]

2-8℃, Protected from air and light, refrigerate or freeze.

[References]

[1] Downs J R, Clearfield M, Weis S, *et al. Jama J. Am.Med. Assoc., 1998, 279(20): 1615-22.*

[2] Agarwal B, Halmos B, Feoktistov A S, *et al. Carcinogenesis, 2002, 23(3):521-8.*

[3] Thibault A, Samid D, Tompkins A C, *et al. Clinical Cancer Research An Official Journal of the American Association for Cancer Research, 1996, 2(3):483-91.*

[4] Kim S I, Han D C, Lee H B. *J. Am. Soc. Nephrol., 2000, 11(1):80-7.*

[5] Hirata M. *Biol. Pharm.Bull., 2009, 32(9):1600-3.*

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