

Product Data Sheet

Product Name: Hymeglusin

Cat. No.: GC43883

Chemical Properties

Cas. No. 29066-42-0

Chemical Name 11-[3R-(hydroxymethyl)-4-oxo-2R-oxetanyl]-3,5,7R-trimethyl-2E,4E-undecadienoic acid

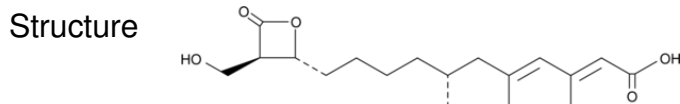
SMILES OC[C@@H](C1=O)[C@H](O1)CCCC[C@@H](C)C/C(C)=C/C(C)=C/C(O)=O

Formula C₁₈H₂₈O₅ M.Wt 324.4

Solubility Soluble in ethanol, or in methanol, or in DMSO, or in chloroform Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.



Background

Hymeglusin is a fungal β -lactone antibiotic that inhibits HMG-CoA synthase ($IC_{50} = 0.12 \mu M$) by covalently modifying the active Cys129 residue of the enzyme.[1][2] At a dose of 25 mg/kg, hymeglusin inhibits cholesterol biosynthesis in rats by 45%. Chiral studies indicate that the (2R,3R)- β -lactone moiety of hymeglusin is important for eliciting the specific inhibition of HMG-CoA synthase.[3] As a cell-wall targeting antibiotic, hymeglusin has been used to investigate the role of a gene important for controlling *S. aureus* virulence in a mouse sepsis model of infection.[4]

Reference:

- [1]. Greenspan, M.D., Yudkovitz, J.B., Lo, C.Y., et al. Inhibition of hydroxymethylglutaryl-coenzyme A synthase by L-659,699. *Proc. Natl. Acad. Sci. U.S.A.* 84(21), 7488-7492 (1987).
- [2]. Tomoda, H., Ohbayashi, N., Morikawa, Y., et al. Binding site for fungal β -lactone hymeglusin on cytosolic 3-hydroxy-3-methylglutaryl coenzyme A synthase. *Biochim. Biophys. Acta* 1636(1), 22-28

Caution: Product has not been fully validated for medical applications. For research use only.

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(2004).

[3]. Tomoda, H., Ohbayashi, N., Kumagai, H., et al. Differential inhibition of HMG-CoA synthase and pancreatic lipase by the specific chiral isomers of β -lactone DU-6622. Biochem. Bioph. Res. Commun. 265(2), 536-540 (1999).

[4]. Balibar, C.J., Shen, X., McGuire, D., et al. cwrA, a gene that specifically responds to cell wall damage in Staphylococcus aureus. Microbiology 156(Pt 5), 1372-1383 (2010).

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