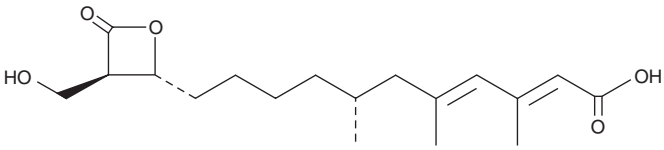
PRODUCT INFORMATION

Hymeglusin

Item No. 11899

CAS Registry No.:	29066-42-0
Formal Name:	11-[3R-(hydroxymethyl)-4-oxo-2R-oxetanyl]-3,5,7R-trimethyl-2E,4E-undecadienoic acid
Synonyms:	Antibiotic 1233A, Antibiotic F 244, L 659,699
MF:	$C_{18}H_{28}O_5$
FW:	324.4
Purity:	≥95%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Fungus/*Scopulariopsis* sp. F-244



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Hymeglusin is supplied as a crystalline solid. A stock solution may be made by dissolving the hymeglusin in the solvent of choice, which should be purged with an inert gas. Hymeglusin is soluble in organic solvents such as ethanol, methanol, DMSO, and chloroform.

Description

Hymeglusin is a fungal β-lactone antibiotic that inhibits HMG-CoA synthase (IC_{50} = 0.12 µM) by covalently modifying the active Cys^{129} residue of the enzyme.[1,2] At a dose of 25 mg/kg, hymeglusin inhibits cholesterol biosynthesis in rats by 45%.[1] 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]

References

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 (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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