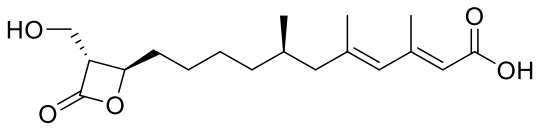
Product data sheet

MedKoo Cat#: 532062 Name: L-659,699 CAS: 29066-42-0 Chemical Formula: $C_{18}H_{28}O_5$ Exact Mass: 324.1937 Molecular Weight: 324.417	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
L-659,699, also known as hymeglusin, is a fungal β-lactone antibiotic that inhibits HMG-CoA synthase (IC50 = 0.12 μM) by covalently modifying the active Cys129 residue of the enzyme.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
TBD	TBD	TBD

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.08 mL	15.41 mL	30.82 mL
5 mM	0.62 mL	3.08 mL	6.16 mL
10 mM	0.31 mL	1.54 mL	3.08 mL
50 mM	0.06 mL	0.31 mL	0.62 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Zhou C, Wang Z, Yang S, Li H, Zhao L. Hymeglusin Enhances the Pro-Apoptotic Effects of Venetoclax in Acute Myeloid Leukemia. Front Oncol. 2022 Jun 29;12:864430. doi: 10.3389/fonc.2022.864430. PMID: 35847946; PMCID: PMC9277771.
2. Skaff DA, Ramyar KX, McWhorter WJ, Barta ML, Geisbrecht BV, Miziorko HM. Biochemical and structural basis for inhibition of Enterococcus faecalis hydroxymethylglutaryl-CoA synthase, mvaS, by hymeglusin. Biochemistry. 2012 Jun 12;51(23):4713-22. doi: 10.1021/bi300037k. Epub 2012 May 25. PMID: 22510038; PMCID: PMC3431454.

In vivo study

1. Lindsay RT, Dieckmann S, Krzyzanska D, Manetta-Jones D, West JA, Castro C, Griffin JL, Murray AJ. β-hydroxybutyrate accumulates in the rat heart during low-flow ischaemia with implications for functional recovery. Elife. 2021 Sep 7;10:e71270. doi: 10.7554/eLife.71270. PMID: 34491199; PMCID: PMC8423437.
2. Tomoda H, Ohbayashi N, Morikawa Y, Kumagai H, Omura S. Binding site for fungal beta-lactone hymeglusin on cytosolic 3-hydroxy-3-methylglutaryl coenzyme A synthase. Biochim Biophys Acta. 2004 Feb 27;1636(1):22-8. doi: 10.1016/j.bbalip.2003.11.005. PMID: 14984735.

7. Bioactivity
Biological target:
Hymeglusin, as a fungal β-lactone Antibiotic, is a HMG-CoA synthase inhibitor (IC_{50} = 0.12 μM).

Product data sheet

In vitro activity

Hymeglusin decreased BCL2 expression levels in HL-60 and KG-1 cells.

Reference: Front Oncol. 2022 Jun 29;12:864430. https://pubmed.ncbi.nlm.nih.gov/35847946/

In vivo activity

Inhibition of β-hydroxy-β-methylglutaryl (HMG)-CoA synthase (HMGCS2) with hymeglusin lowered ischaemic β-OHB accumulation by 40%, despite increased flux through succinyl-CoA-3-oxaloacid CoA transferase (SCOT), resulting in greater contractile recovery. Hymeglusin also protected cardiac mitochondrial respiratory capacity during ischaemia/reperfusion in rats.

Reference: Elife. 2021 Sep 7;10:e71270. https://pubmed.ncbi.nlm.nih.gov/34491199/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.