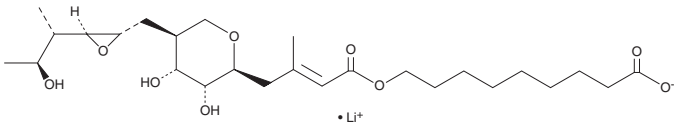
PRODUCT INFORMATION

Pseudomonic Acid (lithium salt)

Item No. 33271

CAS Registry No.:	73346-79-9
Formal Name:	5,9-anhydro-2,3,4,8-tetradeoxy-8-[[(2S,3S)-3-[(1S,2S)-2-hydroxy-1-methylpropyl]-2-oxiranyl]methyl]-3-methyl-L-talo-non-2-enonic acid, 8-carboxyoctyl ester, monolithium salt
MF:	$C_{26}H_{43}O_9 \bullet Li$
FW:	506.6
Purity:	≥90%
UV/Vis.:	λ_{max}: 223 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Bacterium/*Pseudomonas fluorescens*



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

Laboratory Procedures

Pseudomonic acid (lithium salt) is supplied as a solid. A stock solution may be made by dissolving the pseudomonic acid (lithium salt) in the solvent of choice, which should be purged with an inert gas. Pseudomonic acid (lithium salt) is soluble in the organic solvent ethanol at a concentration of approximately 30 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of pseudomonic acid (lithium salt) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of pseudomonic acid (lithium salt) in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Pseudomonic acid is an antibiotic and bacterial metabolite that has been found in *P. fluorescens*.[1] It is bacteriostatic against *S. aureus* (MIC = 0.05 µg/ml) and active against skin wound clinical isolates of methicillin-resistant *S. aureus* (MRSA; MICs = 1-4 µg/ml).[2,3] Pseudomonic acid inhibits MRSA and *P. aeruginosa* biofilm formation *in vitro*.[4] It inhibits bacterial cell wall isoleucyl-tRNA synthetase, slowing bacterial growth.[2,4] Topical administration of pseudomonic acid (2% v/v) reduces the number of wound colony forming units (CFUs) in a mouse model of MRSA skin infection.[3]

References

1. Fuller, A.T., Mellows, G., Woolford, M., *et al.* Psuedomonic acid: An antibiotic produced by *Pseudomonas fluorescens*. *Nature* **234(5329)**, 416-417 (1971).
2. Hughes, J. and Mellows, G. On the mode of action of pseudomonic acid: Inhibition of protein synthesis in *Staphylococcus aureus*. *J. Antibiot. (Tokyo)* **31(4)**, 330-335 (1978).
3. Mohammad, H., Cushman, M., and Seleem, M.N. Antibacterial evaluation of synthetic thiazole compounds *in vitro* and *in vivo* in a methicillin-resistant *Staphylococcus aureus* (MRSA) skin infection mouse model. *PLoS One* **10(11)**, e0142321 (2015).
4. Khoshnood, S., Heidary, M., Asadi, A., *et al.* A review on mechanism of action, resistance, synergism, and clinical implications of mupirocin against *Staphylococcus aureus*. *Biomed. Pharmacother.* **109**, 1809-1818 (2019).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM