

PRODUCT INFORMATION



Alamethicin

Item No. 11425

CAS Registry No.: 27061-78-5

Formal Name: (3S,12R)-1-((S)-1-((6S,12S,15S,21S,30S)-1-((R)-1-(2-acetamido-2-methylpropanoyl)pyrrolidin-2-yl)-15-(3-amino-3-oxopropyl)-30-isobutyl-21-isopropyl-3,3,6,9,9,12,18,18,24,24,33,33-dodecamethyl-1,4,7,10,13,16,19,22,25,28,31-undeca-oxo-2,5,8,11,14,17,20,23,26,29,32-undecaazatetradecan-34-oyl)pyrrolidin-2-yl)-12-(((R)-5-amino-1-(((S)-1-hydroxy-3-phenylpropan-2-yl)amino)-1,5-dioxopentan-2-yl)carbonyl)-3-isopropyl-6,6,9,9-tetramethyl-1,4,7,10-tetraoxo-2,5,8,11-tetraazapentadecan-15-oic acid

Synonym: Antibiotic U-22324

MF: $C_{92}H_{150}N_{22}O_{25}$

FW: 1,964.3

Purity: $\geq 98\%$ (mixture of isoforms)

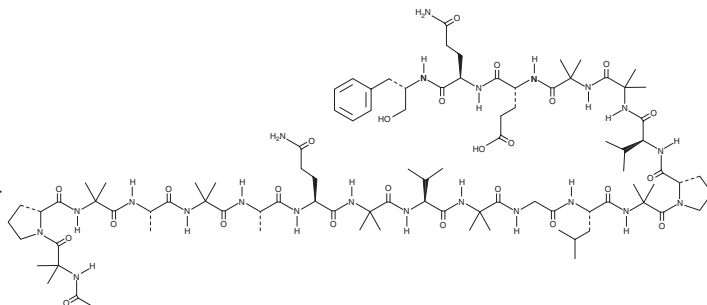
Supplied as: A crystalline solid

Storage: $-20^{\circ}C$

Stability: ≥ 4 years

Item Origin: Fungus/*Trichoderma viride*

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



Laboratory Procedures

Alamethicin is supplied as a crystalline solid. A stock solution may be made by dissolving the alamethicin in the solvent of choice, which should be purged with an inert gas. Alamethicin is soluble in organic solvents such as methanol and DMSO. The solubility of alamethicin in these solvents is approximately 10 mg/ml.

Description

Alamethicin is an antibiotic peptide belonging to a class of membrane active peptides of fungal origin called peptaibols.¹ It contains an unusual amphiphilic amino acid, 2-aminoisobutyric acid, which strongly induces helical peptide structures and forms voltage-gated ion channels in the lipid bilayers of cell membranes.¹ Alamethicin is often used to study ion channel assembly, voltage gating, and peptide-membrane interactions.²⁻⁵ Alamethicin is also widely used as agent to induce various physiological and defense responses in eukaryotic cells including plants.¹

References

1. Maischak, H., Zimmermann, M.R., Felle, H.H., *et al.* *Plant Signal. Behav.* **5**(8), 988-990 (2010).
2. Kessel, A., Cafiso, D.S., and Ben-Tal, N. *Biophys. J.* **78**(2), 571-583 (2000).
3. Pan, J., Tristram-Nagle, S., and Nagle, J.F. *J. Membr. Biol.* **231**(1), 1-36 (2009).
4. Jones, L.R., Maddock, S.W., and Besch, H.R., Jr. *J. Biol. Chem.* **255**(20), 9971-9980 (1980).
5. Walsky, R.L., Bauman, J.N., Bourcier, K., *et al.* *Drug Metab. Dispos.* **40**(5), 1051-1065 (2012).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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