

Product Information

Aculeacin A from *Aspergillus aculeatus*

Product Number **A 7603**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

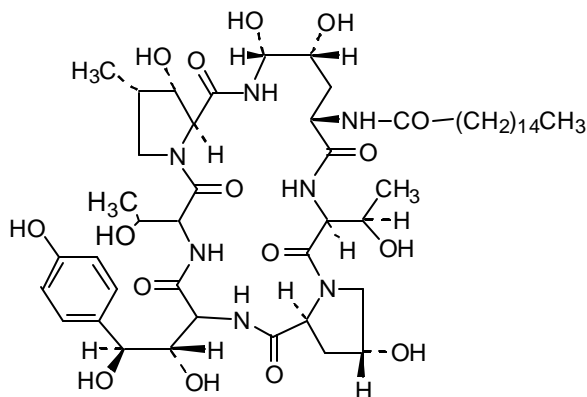
Product Description

Cas #: 58814-86-1
Molecular Weight: 1036.22
Molecular formula: $\text{C}_{50}\text{H}_{81}\text{N}_7\text{O}_{16}$

Aculeacin A is an amphophilic antibiotic, active against fungi and yeasts, that does not inhibit the growth of bacteria.¹ Aculeacin A, which is produced by *Aspergillus aculeatus* inhibits the biosynthesis of β glucan, an important fungal cell wall component, by selective blockage of β -(1,3) glucan synthase.^{2, 3}

Aculeacin A causes rapid yeast cell lysis or induces aberrantly deformed cells if *de novo* cell wall synthesis occurs.² Electron microscopy suggests that Aculeacin A inhibits not only the synthesis of β -(1,3) glucan, but also inhibits the aggregation of microfibrils of this polysaccharide.⁴ Aculeacin A has a chemical structure related to Echinocandin B. Both antibiotics have the same hydrophilic, cyclic hexapeptide to which a different long-chain fatty acid is amid-linked.¹

Structure



Reagent

Purity: > 95% by HPLC

Precautions and Disclaimer

This product is for laboratory research use only, not for drug, household, or other uses. Please refer to the Material Safety Data Sheet (MSDS) for information regarding hazards and safe handling practices.

Storage/Stability

The unopened vial is stable for 2 years if stored at $-20\text{ }^{\circ}\text{C}$. A solution at 1 mg/ml in DMSO is stable for at least 2 months at $-20\text{ }^{\circ}\text{C}$ (as determined by HPLC).

Preparation Instructions

Solubility

Aculeacin A is soluble in methanol, ethanol, dimethyl formamide, and in DMSO (10 mg/ml). It is not very soluble in other organic solvents or water.

References

1. Mizuno, K., et al., J. Antibiot., **30**, 297-302 (1977).
2. Yamaguchi, H., et al., Microbiol. Immunol., **29**, 609-623 (1985).
3. Takeshima, H., et al., J. Biochem., **105**, 606-610 (1989).
4. Osumi, M., Micron, **29**, 207-233 (1998).

KAA/SP 04/04

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.