

PRODUCT INFORMATION



Ophiobolin A

Item No. 15381

CAS Registry No.: 4611-05-6
Formal Name: (2'S,3'S,3aR,5'R,6aS,9R,9aS,10aR)-1,3a,4,4',5',6a,7,8,9,9a,10,10a-dodecahydro-9-hydroxy-3',9,10a-trimethyl-5'-spiro[dicyclopenta[a,d]cyclooctene-3(2H),2'(3'H)-furan]-6-carboxaldehyde
Synonyms: Cochliobolin, NSC 114340

MF: C₂₅H₃₆O₄

FW: 400.6

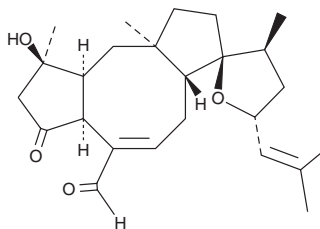
Purity: ≥95%

Supplied as: A solid

Storage: -20°C

Stability: ≥4 years

Item Origin: Fungus/*Bipolaris leersia*



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

Laboratory Procedures

Ophiobolin A is supplied as a solid. A stock solution may be made by dissolving the ophiobolin A in the solvent of choice, which should be purged with an inert gas. Ophiobolin A is soluble in ethanol, methanol, DMSO, and dimethyl formamide.

Description

Calmodulin is a calcium-sensing protein that regulates a wide array of proteins involved in diverse cellular functions.^{1,2} Ophiobolin A is a sesterterpenoid fungal phytotoxin that binds and irreversibly antagonizes calmodulin, blocking the activation of calmodulin-dependent phosphodiesterase with an IC₅₀ value of 9 μM.³ It antagonizes a variety of forms of calmodulin from plants and animals by binding covalently to conserved lysine residues.^{4,5}

References

1. Chin, D. and Means, A.R. Calmodulin: A prototypical calcium sensor. *Trends Cell Biol.* **10(8)**, 322-328 (2000).
2. Berchtold, M.W. and Villalobo, A. The many faces of calmodulin in cell proliferation, programmed cell death, autophagy, and cancer. *Biochim. Biophys. Acta* **1843(2)**, 398-435 (2014).
3. Leung, P.C., Taylor, W.A., Wang, J.H., et al. Ophiobolin A. A natural product inhibitor of calmodulin. *J. Biol. Chem.* **259(5)**, 2742-2747 (1984).
4. Au, T.K. and Leung, P.C. Identification of the binding and inhibition sites in the calmodulin molecule for ophiobolin A by site-directed mutagenesis. *Plant Physiol.* **118(3)**, 965-973 (1998).
5. Leung, P.C., Taylor, W.A., Wang, J.H., et al. Role of calmodulin inhibition in the mode of action of ophiobolin A. *Plant Physiol.* **77(2)**, 303-308 (1985).

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.

WARRANTY AND LIMITATION OF REMEDY

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