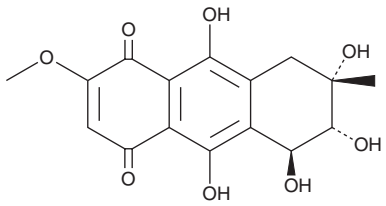
PRODUCT INFORMATION

Bostrycin

Item No. 27466

CAS Registry No.: 21879-81-2
Formal Name: (5S,6R,7S)-5,6,7,8-tetrahydro-5,6,7,9,10-pentahydroxy-2-methoxy-7-methyl-1,4-anthracenedione
Synonym: Rhodosporin
MF: $C_{16}H_{16}O_8$
FW: 336.3
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Fungus/*Arthrinium* sp.



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

Laboratory Procedures

Bostrycin is supplied as a solid. A stock solution may be made by dissolving the bostrycin in the solvent of choice, which should be purged with an inert gas. Bostrycin is soluble in the organic solvent DMSO at a concentration of approximately 1 mg/ml.

Description

Bostrycin is an anthraquinone originally isolated from *B. alpestre* that has diverse biological activities, including antibacterial, antiproliferative, and phytotoxic properties.[1,2] It is active against Gram-positive bacteria, including methicillin-resistant *S. aureus* (MRSA), *M. tuberculosis*, and *C. botulinum*.[2] Bostrycin inhibits proliferation of A549 lung adenocarcinoma cells when used at concentrations ranging from 10 to 30 µM, as well as halts the cell cycle at the G_0/G_1 phase and induces apoptosis in A549 cells.[3] It is a phytotoxin that induces necrosis of water hyacinth leaves when used at a concentration of approximately 7 µg/ml.[4] Bostrycin has been used as a cross-linking agent for protein immobilization that retains bacteriostatic activity when immobilized on nonwoven polypropylene fabric.[2]

References

1. Noda, T., Take, T., Otani, M., *et al*. Structure of bostrycin. *Tetrahedron Lett*. **9(58)**, 6087-6090 (1968).
2. Yang, W.J., Yang, C.S., Huang, C.J., *et al.* Bostrycin, a novel coupling agent for protein immobilization and prevention of biomaterial-centered infection produced by *Nigrospora* sp. No. 407. *Enzyme Microb. Technol*. **50(6-7)**, 287-292 (2012).
3. Chen, W.S., Hou, J.N., Guo, Y.B., *et al.* Bostrycin inhibits proliferation of human lung carcinoma A549 cells via downregulation of the PI3K/Akt pathway. *J. Exp. Clin. Cancer Res.* **30(1)**, 17 (2011).
4. Charudattan, R. and Rao, K.V. Bostrycin and 4-deoxybostrycin: Two nonspecific phytotoxins produced by Alternaria eichhorniae. *Appl. Environ. Microbiol.* **43(4)**, 846-849 (1982).

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