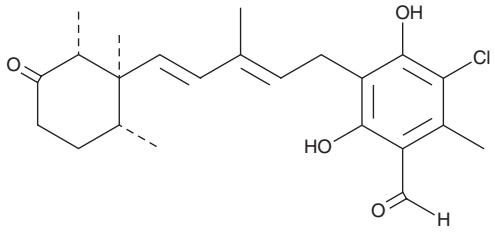
PRODUCT INFORMATION

Ascochlorin

Item No. 19437

CAS Registry No.:	26166-39-2
Formal Name:	3-chloro-4,6-dihydroxy-2-methyl-5-[(2E,4E)-3-methyl-5-[(1R,2R,6R)-1,2,6-trimethyl-3-oxocyclohexyl]-2,4-pentadien-1-yl]-benzaldehyde
Synonyms:	Antibiotic LL-Z1272γ, Ilicicolin D, NSC 287492
MF:	$C_{23}H_{29}ClO_4$
FW:	404.9
Purity:	≥98%
Supplied as:	A powder
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Fungus/*Acremonium* sp.



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

Laboratory Procedures

Ascochlorin is supplied as a powder. A stock solution may be made by dissolving the ascochlorin in the solvent of choice, which should be purged with an inert gas. Ascochlorin is soluble in organic solvents such as ethanol, methanol, DMSO, and dimethyl formamide.

Ascochlorin is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

Ascochlorin is an isoprenoid antibiotic and antiviral that has diverse effects on mammalian cells.[1,2] It suppresses PMA-induced invasion in renal carcinoma cells (IC_{50} = ~10 µM) by inhibiting the expression of matrix metalloproteinase-9.[3] At 2 µM, ascochlorin profoundly increases the expression of p53 by increasing protein stability in cancer cells, and, at 50 µm, it inhibits signaling through STAT3.[4,5] Ascochlorin also binds and inhibits the mitochondrial cytochrome bc_1 complex, blocking reduction of cytochrome *b* by ubiquinone.[6]

References

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2. Takatsuki, A., Tamura, G., and Arima, K. *App. Microbiol.* **17(6)**, 825-829 (1969).
3. Hong, S., Park, K.-K., Magae, J., *et al. J. Biol. Chem.* **280(26)**, 25202-20209 (2005).
4. Jeong, J.-H., Nakajima, H., Magae, J., *et al. Int. J. Cancer* **124(12)**, 2797-2803 (2009).
5. Dai, X., Ahn, K.S., Kim, C., *et al. Mol. Oncol.* **9(4)**, 818-833 (2015).
6. Berry, E.A., Huang, L., Lee, D.-W., *et al. Biochim. Biophys. Acta.* **1797(3)**, 360-370 (2016).

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