

Product Information

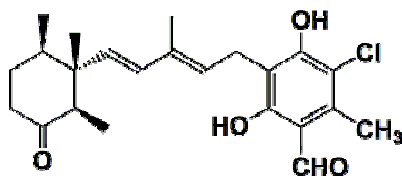
Ascochlorin from *Verticillium hemipterigenum*

Catalog Number **SML0104**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

CAS RN 26166-39-2
Synonym: LL-Z 1272 gamma

Product Description

Molecular formula: $\text{C}_{23}\text{H}_{29}\text{ClO}_4$
Molecular weight: 404.93



Ascochlorin is an isoprenoid antibiotic produced by *Verticillium hemipterigenum*, which was initially identified as an antiviral and antitumor agent.^{1,2} Recent research has indicated ascochlorin inhibits the Qi and Qo quinone binding sites of the mitochondrial cytochrome *bc1* complex.³ Moreover, ascochlorin activates p53, probably as a result of its inhibitory effect on mitochondrial respiration.⁴ In addition, ascochlorin has the ability to suppress the nuclear transcription factor protein-1, a nuclear transcription factor activator, which leads to suppression of the extracellular matrix metalloproteinase-9 (MMP9).⁵ The regulation of MMP is implicated in renal development, macrophage differentiation, atherosclerosis, inflammation, rheumatoid arthritis, and tumor invasion.^{6,7} Ascochlorin was also found to be effective against Mx-1, an estrogen lacking breast cancer cell line.⁸

Purity: $\geq 98\%$ (HPLC)

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Ascochlorin is soluble in methanol, chloroform, ethyl acetate, and DMSO. It is insoluble in water.

Storage/Stability

Store the product sealed at $-20\text{ }^{\circ}\text{C}$. Under these conditions the product is stable for at least 2 years.

References

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3. Berry, E.A. et al., Ascochlorin is a novel, specific inhibitor of the mitochondrial cytochrome *bc1* complex. *Biochim. Biophys. Acta*, **1797**, 360-370 (2010).
4. Jeong, J.H. et al., Ascochlorin activates p53 in a manner distinct from DNA damaging agents. *Int. J. Cancer*, **124**, 2797-2803 (2009).
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6. Nabeshima, K. et al., Matrix metalloproteinases in tumor invasion: role for cell migration. *Pathol. Int.*, **52**, 255-264 (2002).
7. Stetler-Stevenson, W.G. et al., Matrix metalloproteinases and tumor invasion: from correlation and causality to the clinic. *Semin. Cancer Biol.*, **7**, 147-154 (1996).
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KAA,DWF,MAM 10/11-1