

PRODUCT INFORMATION



Emestrin

Item No. 29970

CAS Registry No.: 97816-62-1
Formal Name: (1R,2R,6aS,20S,21R,22bS)-6a,22b-dihydro-2,16,20-trihydroxy-12-methoxy-25-methyl-2H,8H,20H,22H-1,21-epidithio-21,1-(iminomethano)-9,13:15,19-dimetheno-4,7,14-trioxa-22a-azacyclononadec[cd]azulene-8,22,26-trione

MF: C₂₇H₂₂N₂O₁₀S₂

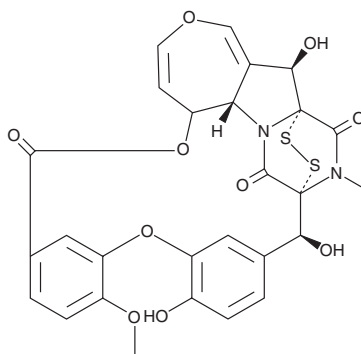
FW: 598.6

Purity: ≥95%

Supplied as: A solid

Storage: -20°C

Stability: ≥2 years



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

Laboratory Procedures

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

Description

Emestrin is a mycotoxin originally isolated from *E. striata* that has antimicrobial, immunomodulatory, and cytotoxic activities.¹⁻⁵ It is active against the fungi *C. albicans* and *C. neoformans*, as well as the bacteria *E. coli*, *S. aureus*, and methicillin-resistant *S. aureus* (MRSA; IC₅₀S = 3.94, 0.6, 2.21, 4.55, and 2.21 μg/ml, respectively).² Emestrin is a chemokine (C-C motif) receptor 2 (CCR2) antagonist (IC₅₀ = 5.4 μM in a radioligand binding assay using isolated human monocytes).³ Emestrin (0.1 μg/ml) induces apoptosis in HL-60 cells.⁴ It induces heart, thymus, and liver tissue necrosis in mice when administered at doses ranging from 18 to 30 mg/kg.⁵

References

1. Seya, H., Nakajima, S., Kawai, K.-i., *et al.* Structure and absolute configuration of emestrin, a new macrocyclic epidithiodioxopiperazine from *Emericella striata*. *J. Chem. Soc. Chem. Commun.* **10**, 657-658 (1985).
2. Herath, H.M.T.B., Jacob, M., Wilson, A.D., *et al.* New secondary metabolites from bioactive extracts of the fungus *Armillaria tabescens*. *Nat. Prod. Res.* **27(17)**, 1562-1568 (2013).
3. Herath, K.B., Jayasuriya, H., Ondeyka, J.G., *et al.* Isolation and structures of novel fungal metabolites as chemokine receptor (CCR2) antagonists. *J. Antibiot. (Tokyo)* **58(11)**, 686-694 (2005).
4. Ueno, Y., Umemori, K., Niimi, E.-c., *et al.* Induction of apoptosis by T-2 toxin and other natural toxins in HL-60 human promyelotic leukemia cells. *Nat. Toxins* **3(3)**, 129-137 (1995).
5. Terao, K., Ito, E., Kawai, K.-i., *et al.* Experimental acute poisoning in mice induced by emestrin, a new mycotoxin isolated from *Emericella* species. *Mycopathologia* **112(2)**, 71-79 (1990).

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.

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD

ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM