

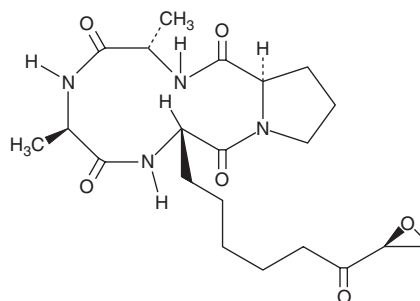
PRODUCT INFORMATION



HC Toxin

Item No. 10576

CAS Registry No.: 83209-65-8
Formal Name: (6R,9S,14aR)-3,6R-dimethyl-9S-(6-((S)-oxiran-2-yl)-6-oxohexyl)decahydropyrrolo[1,2-a][1,4,7,10]tetraazacyclododecine-1,4,7,10-tetranone
Synonym: Toxin I (*Helminthosporium carbonum*)
MF: C₂₁H₃₂N₄O₆
FW: 436.5
Purity: ≥95%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 232 nm



Laboratory Procedures

For long term storage, we suggest that HC toxin be stored as supplied at -20°C. It should be stable for at least two years.

HC Toxin is supplied as a crystalline solid. A stock solution may be made by dissolving the HC toxin in the solvent of choice. HC Toxin is soluble in methanol and DMSO which should be purged with an inert gas. The solubility of HC toxin in these solvents is approximately 10 mg/ml.

If aqueous stock solutions are required for biological experiments, they can best be prepared by dissolving the compound in aqueous buffers or isotonic saline. Ensure that 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

HC Toxin is a cell-permeable, reversible inhibitor of histone deacetylases (HDACs) (IC₅₀ = 30 nM).^{1,2} Through its effects on HDACs, HC toxin has been shown to up-regulate the expression of 15-lipoxygenase-1 in colorectal cancer cells and induces fetal hemoglobin in human primary erythroid cells.^{3,4} HC Toxin is a cyclic tetrapeptide first isolated from *H. carbonum* (now *C. carbonum*), a pathogen of maize.⁵

References

1. Brosch, G., Ransom, R., Lechner, T., *et al.* Inhibition of maize histone deacetylases by HC toxin, the host-selective toxin of *Cochilobolus carbonum*. *Plant Cell* **7**, 1941-1950 (1995).
2. Darkin-Rattray, S.J., Gurnett, A.M., Myers, R.W., *et al.* Apicidin: A novel antiprotozoal agent that inhibits parasite histone deacetylase. *Proc. Natl. Acad. Sci. USA* **93**(23), 13143-13147 (1996).
3. Kamitani, H., Taniura, S., Ikawa, H., *et al.* Expression of 15-lipoxygenase-1 is regulated by histone acetylation in human colorectal carcinoma. *Carcinogenesis* **22**(1), 187-191 (2001).
4. Cao, H. and Stamatoyannopoulos, G. Histone deacetylase inhibitor FK228 is a potent inducer of human fetal hemoglobin. *Am. J. Hematol.* **81**, 981-983 (2006).
5. Walton, J.D. HC-toxin. *Phytochemistry* **67**, 1406-1413 (2006).

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