

PRODUCT INFORMATION



Cylindrospermopsin

Item No. 10007867

CAS Registry No.: 143545-90-8
Formal Name: 6-[(R)-hydroxy[(2aS,3R,4S,5aS,7R)-2,2a,3,4,5,5a,6,7-octahydro-3-methyl-4-(sulfooxy)-1H-1,8,8b-triazaacenaphthylen-7-yl]methyl]-2,4(1H,3H)-pyrimidinedione

MF: C₁₅H₂₁N₅O₇S
FW: 415.4

Purity: ≥95%

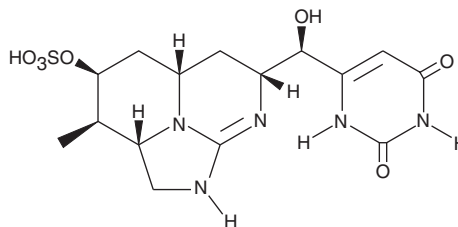
Supplied as: A powder

Storage: -20°C

Stability: ≥4 years

Item Origin: Bacterium/*Cylindrospermopsis raciborskii*

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



Laboratory Procedures

Cylindrospermopsin is supplied as a powder. A stock solution may be made by dissolving the cylindrospermopsin in the solvent of choice, which should be purged with an inert gas. Cylindrospermopsin is soluble in methanol and ethanol. Cylindrospermopsin is soluble in water. We do not recommend storing the aqueous solution for more than one day.

Description

Cylindrospermopsin, a tricyclic uracil derivative, is a cyanobacterial toxin that was first discovered in an algal bloom contaminating a local drinking supply on Palm Island in Queensland, Australia after an outbreak of a mysterious disease. Cylindrospermopsin targets protein and glutathione synthesis in hepatocytes (IC₅₀s = 1.3 and 2.4 μM, respectively), leading to cell death.¹ It has been shown to inhibit the activity of the uridine monophosphate synthase complex with a K_i value of 10 μM.² Cylindrospermopsin is genotoxic, inducing DNA damage as evidenced by double strand breaks and reducing cell viability in HepG2 cells at 0.1-0.5 μg/ml.³

References

1. Runnegar, M.T., Xie, C., Snider, B.B., *et al.* *In vitro* hepatotoxicity of the cyanobacterial alkaloid cylindrospermopsin and related synthetic analogues. *Toxicol. Sci.* **67(1)**, 81-87 (2002).
2. Reisner, M., Carmeli, S., Werman, M., *et al.* The cyanobacterial toxin cylindrospermopsin inhibits pyrimidine nucleotide synthesis and alters cholesterol distribution in mice. *Toxicol. Sci.* **82(2)**, 620-627 (2004).
3. Štraser, A., Filipič, M., Novak, M., *et al.* Double strand breaks and cell-cycle arrest induced by the cyanobacterial toxin cylindrospermopsin in HepG2 cells. *Mar. Drugs* **11(8)**, 3077-3090 (2013).

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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