

Product Data Sheet

Product Name: Cylindrospermopsin

Cat. No.: GC43351

Chemical Properties

Cas. No. 143545-90-8

Chemical 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

SMILES C[C@H]1[C@@H](OS(=O)(O)=O)[C@@]2([H])N(C3=N[C@]([C@@H](O)C(N([H])C(N4[H])=O)=CC4=O)([H])C2)[C@@]1(CN3)[H]

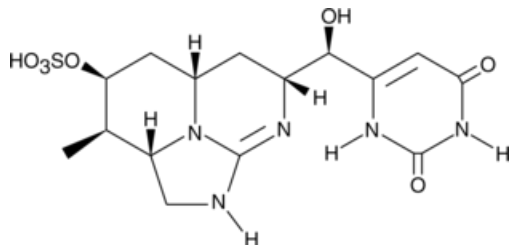
Formula C₁₅H₂₁N₅O₇S M.Wt 415.4

Solubility Soluble in DMSO, Methanol, Water Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

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]

Reference:

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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- [1]. Runnegar, M.T., Xie, C., Snider, B.B., et al. In vitro hepatotoxicity of the cyanobacterial alkaloid cylindrospermopsin and related synthetic analogues. *Toxicological Sciences* 67, 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. *Toxicological Sciences* 82, 620-627 (2004).
- [3]. Straser, A., Filipic, 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).

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