Product Data Sheet

Product Name: Cyclosporin D
Cat. No.: GC11866

Chemical Properties

Cas. No.	63775-96-2
Chemical Name	(3S,6S,9S,12R,13Z,15S,16Z,18S,21S,22Z,24S,30S,31E,33R)-14,17,23,32-tetrahydroxy-6,9,18,24-tetraisobutyl-3,21,30-triisopropyl-1,4,7,10,12,15,19,25,28-nonamethyl-33-((R,E)-2-methylhex-4-enoyl)-1,4,7,10,13,16,19,22,25,28,31-undecaazacyclotritriaconta-13,16,2
SMILES	C/C([H])=C([H])/C[C@@](C([C@@](N1C)([H])/C(O)=N\[C@@](C(N(CC(N([C@@](/C(O)=N/[C@@](C(N([C@@](/C(O)=N/[C@@](/C(O)=N/[C@](C(N([C@@](C(N([C@@](C(N([C@@](C1=O)([H])C(C)C)C)=O)([H])CC(C)C)C)=O)([H])CC(C)C)C)=O)([H])C)([H])C)([H])CC(C)C)C)=O)([H])C(C)C)([H])CC(
Formula	$C_{63}H_{111}N_{11}O_{12}$
M.Wt	1214.62
Solubility	≥ 60.7mg/mL in DMSO with ultrasonic and warming
Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ 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	Cyclosporin D

Background

Cyclosporin D is an immunosuppressive agent [1].

Cyclosporin D (CsD) is an analogue of cyclosporine A with weak immunosuppressive activity. Cyclosporin D has been used as an internal standard for the quantification of cyclosporin A. In human multidrug-resistant ovarian cancer cells, cyclosporin D significantly overcame adriamycin resistance [2]. In lymphocyte, CsD weakly inhibited PHA-, PWM-, and PMA + Ca2+-induced cell proliferation [3].

In mice, CsD inhibited edema in mouse ear and alkaline phosphatase activity in mouse

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skin induced by TPA by 98% and 88%, respectively. In cytosol of mouse pancreas, CsD inhibited the Ca2+/calmodulin-dependent phosphorylation of the elongation factor 2 (EF-2) and the TPA-induced increase of EF-2 [1]. Cyclosporin D was effective in inhibiting P. falciparum parasite in vitro and P. berghei malaria parasite development in vivo when administered orally [4].

References:

[1]. Gschwendt M, Kittstein W, Marks F. The weak immunosuppressant cyclosporine D as well as the immunologically inactive cyclosporine H are potent inhibitors in vivo of phorbol ester TPA-induced biological effects in mouse skin and of Ca2+/calmodulin dependent EF-2 phosphorylation in vitro. Biochem Biophys Res Commun, 1988, 150(2): 545-551.

[2]. Mizuno K, Furuhashi Y, Misawa T, et al. Modulation of multidrug resistance by immunosuppressive agents: cyclosporin analogues, FK506 and mizoribine. Anticancer Res, 1992, 12(1): 21-25.

[3]. Sadeg N, Pham-Huy C, Rucay P, et al. In vitro and in vivo comparative studies on immunosuppressive properties of cyclosporines A, C, D and metabolites M1, M17 and M21. Immunopharmacol Immunotoxicol, 1993, 15(2-3): 163-177.

[4]. Uadia PO1, Ezeamuzie IC, Ladan MJ, et al. Antimalarial activity of cyclosporins A, C and D. Afr J Med Med Sci, 1994, 23(1): 47-51.