Product Data Sheet

Product Name: UCN-02
Cat. No.: GC16678

Chemical Properties

Cas. No.	121569-61-7		
Chemical Name	(3S,9S,10R,11R,13R)-2,3,10,11,12,13-hexahydro-3-hydroxy-10-methoxy-9-methyl-11-(methylamino)-9,13-epoxy-1H,9H-diindolo[1,2,3-gh:3',2',1'-lm]pyrrolo[3,4-j][1,7]benzodiazonin-1-one		
SMILES	[H][C@]12N(C3=C(N([C@](O2)(C)[C@H](OC)[C@H](NC)C1)C4=C5C=CC=C4)C5=C([C@H](O)NC6=O)C6=C37)C8=C7C=CC=C8		
Formula	$C_{28}H_{26}N_4O_4$	M.Wt	482.5
Solubility	Ethanol: 1 mg/ml	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	UCN-02		

Background

UCN-02 is a derivative of staurosporine and a stereoisomer of UCN-01, which has been first isolated from a high staurosporine-producing Streptomyces culture as a minor co-metabolite [1]. UCN-02 is protein kinase C inhibitor [1].

Protein kinase C (PKC), which can phosphorylate serine and threonine, is a family of protein kinase enzymes involved in regulating the function of other proteins. Protein kinase C plays an important role in several signal transduction cascades. Protein kinase C has been implicated in modulating membrane structure events, mediating immune responses, regulating transcription, learning and memory, and regulating cell growth [2].

UCN-02 inhibited protein kinase C with a slightly reduced potency than UCN-01. The IC50 values were 62 and 4.1 nM for UNC-02 and UCN-01, respectively. UCN-02 was cytotoxic to the growth of HeLa S3 cells.

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References:
[1] Takahashi, I. ,Saitoh, Y.,Yoshida, M., et al. UCN-01 and UCN-02, new selective inhibitors of protein kinase C. II. Purification, physico-chemical properties, structural determination and biological activities. J.Antibiot.(Tokyo) 42(4), 571-576 (1989).
[2] Newton A C. Protein kinase C: structure, function, and regulation[J]. Journal of Biological Chemistry, 1995, 270(48): 28495-28498.

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