Product Data Sheet

Product Name: Cytochalasin H
Cat. No.: GC12007

Chemical Properties

Cas. No.	53760-19-3		
Chemical Name	(3S,3aR,4S,6S,6aR,7E,10S,12R,13E,15R,15aR)-15-(acetyloxy)-2,3,3a,4,5,6,6a,9,10,11,12,15-dodecahydro-6,12-dihydroxy-4,10,12-trimethyl-5-methylene-3-1H-cycloundec[d]isoindol-1-one		
SMILES	O=C1N[C@@H](CC2=CC=CC=C2)[C@]([C@]31[C@H](OC(C)=O)/C=C/[C@](C)(O)C[C@@H](C)C/C=C/[C@@]3([H])[C@@H]4O)([H])[C@H](C)C4=C		
Formula	$C_{30}H_{39}NO_5$	M.Wt	493.6
Solubility	DMF: Soluble,DMSO: Soluble,Ethanol: Soluble,Methanol: Soluble	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	Cytochalasin H		

Background

Cytochalasin H is a potent inhibitor of actin incorporation into filaments [5].

The cytochalasins are a group of cell-permeable cytotoxic fungal metabolites that disrupt actin filaments and actin-associated structures in a wide variety of cell types. Cytochalasins have been valuable agents in the study of the actin self-assembly mechanism [1][2][3][4].

Cytochalasin H is a potent inhibitor of actin incorporation into filaments. Cytochalasin H, the active constituent of an ethanolic extract of Gleditsia sinensis thorns (EEGS), had anti-angiogenic activity in vitro and in vivo via suppression of pro-angiogenic proteins, such as endothelin-1 (ET-1) and metallopeptidase 2 (MMP2). In chicken embryos, the calculated LD50 for cytochalasin H was 6.2 μg per egg [6][7].

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In an in ovo tumor xenograft model, cytochalasin H significantly decreased tumor weight by 40%. In a chick CAM assay, cytochalasin H at 125 ng per egg effectively inhibited the angiogenesis by 50%. Intraperitoneal injections of cytochalasin H at 2.5 mg/kg/d inhibited A549-xenografed tumor growth without any signs of toxicity [6][7].

References:

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[4]. Walling EA1, Krafft GA, Ware BR. Actin assembly activity of cytochalasins and cytochalasin analogs assayed using fluorescence photobleaching recovery. Arch Biochem Biophys. 1988 Jul;264(1):321-32.
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