Product Data Sheet

Product Name: Arcyriaflavin A
Cat. No.: GC13649

Chemical Properties

Cas. No.	118458-54-1		
Chemical Name	12,13-dihydro-5H-indolo[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione		
SMILES	O=C(C1=C2C(NC3=CC=CC=C23)=C4NC5=CC=CC=C5C4=C16)NC6=O		
Formula	$C_{20}H_{11}N_3O_2$	M.Wt	325.32
Solubility	DMF: 5 mg/ml,DMF:PBS(pH7.2) (1:2): 0.33 mg/ml,DMSO: 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	Arcyriaflavin A		

Background

IC50: 0.2 μM for HCMV [1], 0.14 μM for D1–CDK4 [2]

The natural product Arcyriaflavin A, unsubstituted indolocarbazole, was a potent selective inhibitor of human cytomegalovirus (HCMV) replication. HCMV infection is typically unnoticed in healthy people, but can be life-threatening for the immunocompromised.

In vitro: Arcyriaflavin A is a potent, selective inhibitor of HCMV replication in cell culture, and the anti-HCMV activity appeared no relation to the inhibition of protein kinase C. The imide NH was identified to be essential for anti-HCMV activity [1]. Arcyriaflavin A also has been showed the inhibitory activity against D1/CDK4 with a IC50 of 59 nM. Based on X-ray co-crystal structure of staurosporine and the human CDK2, the acidic proton of the maleimide moiety and the carbonyl group play critical roles by acting as a hydrogen bond donor and acceptor in the ATP binding pocket of CDK2 [2].

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In vivo: So far, no in vivo study has been conducted.

Clinical trial: So far, no clinical study has been conducted.

References:
[1] Slater MJ, Cockerill S, Baxter R, Bonser RW, Gohil K, Gowrie C, Robinson JE, Littler E, Parry N, Randall R, Snowden W. Indolocarbazoles: potent, selective inhibitors of human cytomegalovirus replication. Bioorg Med Chem. 1999 Jun;7(6):1067-74.
[2] Zhu G, Conner S, Zhou X, Shih C, Brooks HB, Considine E, Dempsey JA, Ogg C, Patel B, Schultz RM, Spencer CD, Teicher B, Watkins SA. Synthesis of quinolinyl/isoquinolinyl[a]pyrrolo [3,4-c] carbazoles as cyclin D1/CDK4 inhibitors. Bioorg Med Chem Lett. 2003 Apr 7;13(7):1231-5.

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