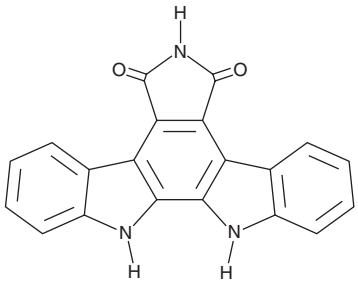
PRODUCT INFORMATION

Arcyriaflavin A

Item No. 13516

CAS Registry No.:	118458-54-1
Formal Name:	12,13-dihydro-5H-indolo[2,3-a] pyrrolo[3,4-c]carbazole-5,7(6H)-dione
MF:	$C_{20}H_{11}N_3O_2$
FW:	325.3
Purity:	≥95%
UV/Vis.:	λ_{max}: 235, 281, 315 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Arcyriaflavin A is supplied as a crystalline solid. A stock solution may be made by dissolving the arcyriaflavin A in the solvent of choice, which should be purged with an inert gas. Arcyriaflavin A is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of arcyriaflavin A in these solvents is approximately 1 and 5 mg/ml, respectively.

Arcyriaflavin A is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, arcyriaflavin A should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Arcyriaflavin A has a solubility of approximately 0.33 mg/ml in a 1:2 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Arcyriaflavin A is an inhibitor of cyclin-dependent kinase 4 (CDK4; IC_{50} = 140 nM) and calcium/calmodulin-dependent protein kinase II (CaMKII; IC_{50} = 25 nM).[1] It is selective for CDK4 and CaMKII over protein kinase A (PKA) and PKC (IC_{50}s = >2 and >100 µM, respectively). *In vitro*, arcyriaflavin A inhibits replication of human cytomegalovirus (HCMV; IC_{50} = 200 nM), as well as proliferation of HCT116 and NCI H460 human carcinoma cells (IC_{50}s = 850 and 590 nM, respectively).[1,2] It also inhibits proliferation and induces apoptosis of endometriotic cyst stromal cells (ECSCs).[3]

References

1. Sanchez-Martinez, C., Shih, C., Faul, M.M., *et al.* Aryl[*a*]pyrrolo[3,4-*c*]carbazoles as selective cyclin D1-CDK4 inhibitors. *Bioorg. Med. Chem. Lett.* **13(21)**, 3835-3839 (2003).
2. Slater, M.J., Cockerill, S., Baxter, R., *et al.* Indolocarbazoles: Potent, selective inhibitors of human cytomegalovirus replication. *Bioorg. Med. Chem.* **7(6)**, 1067-1074 (1999).
3. Hirakawa, T., Nasu, K., Aoyagi, Y., *et al.* Arcyriaflavin a, a cyclin D1-cyclin-dependent kinase4 inhibitor, induces apoptosis and inhibits proliferation of human endometriotic stromal cells: A potential therapeutic agent in endometriosis. *Reprod. Biol. Endocrinol.* **15(1)**, 53 (2017).

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