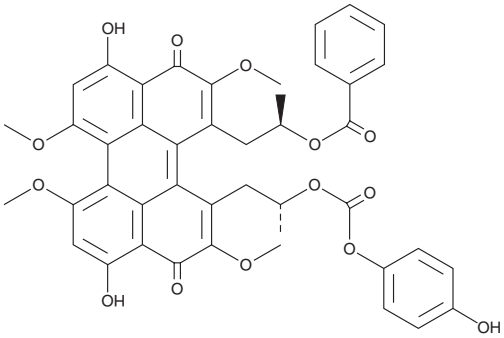
PRODUCT INFORMATION

Calphostin C

Item No. 15383

CAS Registry No.:	121263-19-2
Formal Name:	(1R)-2-[12-[(2R)-2-(benzoyloxy) propyl]-3,10-dihydro-4,9-dihydroxy-2,6,7,11-tetramethoxy-3,10-dioxo-1-perylenyl]-1-methylethyl 4-carbonic acid
Synonyms:	Cladochrome E, PKF 115-584, UCN 1028C
MF:	$C_{44}H_{38}O_{14}$
FW:	790.8
Purity:	≥95%
Supplied as:	A 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

Calphostin C is supplied as a solid. A stock solution may be made by dissolving the calphostin C in the solvent of choice, which should be purged with an inert gas. Calphostin C is soluble in organic solvents such as ethanol, DMSO, dimethyl formamide, and methanol.

Description

Calphostin C is a metabolite of the fungus *C. cladosporioides* that specifically inhibits protein kinase C (PKC) (IC_{50} = 50 nM *versus* an IC_{50} > 50 µM for PKA) by competing at the binding site for diacylglycerol and phorbol esters.[1] As a polycyclic hydrocarbon with strong absorbance in the visible and ultraviolet ranges, activation of this compound is strictly dependent on exposure to light.[2] Independent of PKC, calphostin C also directly inhibits phospholipase D1 and D2 (IC_{50}s = 100 nM).[3] It demonstrates antitumor activity, inhibiting cell growth and promoting apoptosis in HeLa S3 and MCF-7 cells with IC_{50} values of 0.23 and 0.18 µM, respectively.[1]

References

1. Kobayashi, E., Ando, K., Nakano, H., *et al*. Calphostins (UCN-1028), novel and specific inhibitors of protein kinase C. I. Fermentation, isolation, physico-chemical properties and biological activities. *J. Antibiot. (Tokyo)* **42(10)**, 1470-1474 (1989).
2. Bruns, R.F., Miller, F.D., Merriman, R.L., *et al*. Inhibition of protein kinase C by calphostin C is light-dependent. *Biochem. Biophys. Res. Commun.* **176(1)**, 288-293 (1991).
3. Sciorra, V.A., Hammond, S.M., and Morris, A.J. Potent direct inhibition of mammalian phospholipase D isoenzymes by calphostin-c. *Biochemistry* **40(8)**, 2640-2646 (2001).

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