

PRODUCT INFORMATION

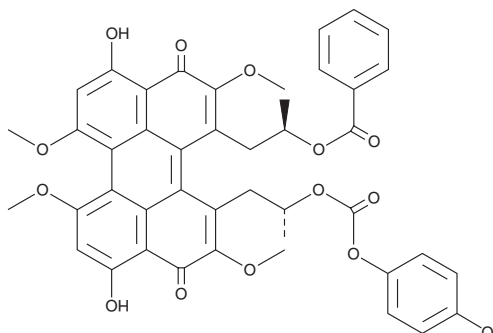


Calphostin C

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: C₄₄H₃₈O₁₄
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) (IC₅₀ = 50 nM versus an IC₅₀ > 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 (IC₅₀s = 100 nM).³ It demonstrates antitumor activity, inhibiting cell growth and promoting apoptosis in HeLa S3 and MCF-7 cells with IC₅₀ 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).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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