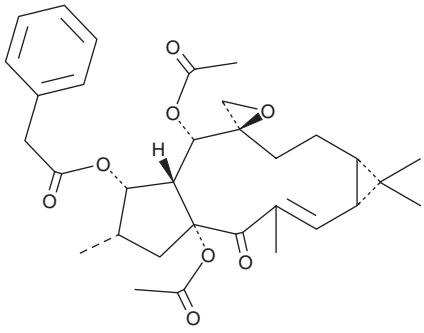
PRODUCT INFORMATION

Euphorbiasteroid

Item No. 27822

CAS Registry No.: 28649-59-4
Formal Name: benzeneacetic acid, (1aR,2'R,2E,4aR,6S,7S,7aR,8S,11aS)-4a,8-*bis*(acetyloxy)-1,1a,4,4a,5,6,7,7a,8,10,11,11a-dodecahydro-1,1,3,6-tetramethyl-4-oxospiro[9H-cyclopenta[a]cyclopropa[f]cycloundecene-9,2'-oxiran]-7-yl ester
MF: $C_{32}H_{40}O_8$
FW: 552.7
Purity: ≥98%
UV/Vis.: λ_{max}: 273 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Plant/*Euphorbia lathyris* L.



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

Laboratory Procedures

Euphorbiasteroid is supplied as a crystalline solid. A stock solution may be made by dissolving the euphorbiasteroid in the solvent of choice, which should be purged with an inert gas. Euphorbiasteroid is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of euphorbiasteroid in these solvents is approximately 5 mg/ml. Euphorbiasteroid is also slightly soluble in ethanol.

Description

Euphorbiasteroid is a tricyclic diterpene that has been found in the plant *E. lathyris*.[1] It inhibits early-stage adipogenesis of 3T3-L1 cells, decreasing intracellular triglyceride accumulation when used at concentrations of 25 and 50 µM.[2] It decreases the expression of Fas, C/EBPα, PPARγ, and SREBP-1c and increases phosphorylation of AMP-activated protein kinase (AMPK) and acetyl-coenzyme A carboxylase (ACC) in 3T3-L1 cells. Euphorbiasteroid inhibits proliferation of HL-60 cells in a concentration-dependent manner, as well as induces apoptosis and increases the expression of Fas and Fas ligand (FasL) and the activity of caspase-3 and caspase-8 in HL-60 cells.[3] It increases P-glycoprotein activity, reverses multi-drug resistance, and restores cytotoxicity of the anticancer agents vinblastine (Item No. 11762), paclitaxel (Item No. 10461), and doxorubicin (Item No. 15007) to MES-SA/Dx5 sarcoma cells.[4]

References

1. Adolf, W., Hecker, E., Balmain, A., *et al.* "Euphorbiasteroid" (epoxy-lathyrol). A new tricyclic diterpene from *Euphorbia lathyris* L. *Tetrahedron Lett.* **11(26)**, 2241-2244 (1970).
2. Park, S.-J., Park, J.H., Han, A., *et al.* Euphorbiasteroid, a component of *Euphorbia lathyris* L., inhibits adipogenesis of 3T3-L1 cells via activation of AMP-activated protein kinase. *Cell Biochem. Funct.* **33(4)**, 220-225 (2015).
3. Guo, F., Li, X., Zhang, C., *et al.* Roles and mechanisms of Fas/FasL in the apoptosis of HL-60 cells induced by euphorbiasteroid. *J. Int. Oncology* **41(9)**, 679-684 (2014).
4. Choi, J.S., Kang, N.S., Min, Y.K., *et al.* Euphorbiasteroid reverses P-glycoprotein-mediated multi-drug resistance in human sarcoma cell line MES-SA/Dx5. *Phytother. Res.* **24(7)**, 1042-1046 (2010).

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