

Jatrophane 4

Chemical Properties

CAS No.:	210108-88-6
Formula:	C39H52O14
Molecular Weight:	744.8
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).

Biological Description

Description	(2R*,3R*,4S*,5R*,7S*,8S*,9S*,13S*,14S*,15R*)-2,5,9,14-Tetraacetoxy-3-benzoyloxy-8,15-dihydroxy-7-isobutyroyloxyjatropha-6(17),11E-diene(Jatrophane 4) and (2R*,3R*, 4S*,5R*,7S*,8S*,9S*,13S*,14S*,15R*)-2,5,14-triacetoxy-3-benzoyloxy-8,15-dihydroxy-7-isobutyroyloxy-9-nicotinoyloxyjatropha-6(17),11E-diene(Jatrophane 3) exhibit significant antifeedant activity against a generalist plant-feeding insect, the cotton bollworm (<i>Helicoverpa armigera</i>), with EC50 values of 0.36 and 0.43 ug/cm2, respectively.
Targets(IC50)	Antifection: None
In vitro	Plant latex is an endogenous fluid secreted from highly specialized laticifer cells and has been suggested to act as a plant defense system. The chemical profile of the latex of <i>Euphorbia peplus</i> was investigated. METHODS AND RESULTS: A total of 13 terpenoids including two previously unknown diterpenoids, (2S*,3S*,4R*,5R*,6R*,8R*,11R*,13S*,14S*,15R*, 16R*)-5,8,15-triacetoxy-3-benzoyloxy-11,16-dihydroxy-9-oxopepluane and (2R*,3R*, 4S*,5R*,7S*,8S*,9S*,13S*,14S*,15R*)-2,5,8,9,14-pentaacetoxy-3-benzoyloxy-15-hydroxy-7-isobutyroyloxyjatropha-6(17),11E-diene), ten known diterpenoids, and a known acyclic triterpene alcohol peplusol, were identified, using HPLC and UPLC-MS/MS analyses and through comparison with the authentic compounds isolated from the whole plant. The diterpenoids exhibited significant antifeedant activity against a generalist plant-feeding insect, the cotton bollworm (<i>Helicoverpa armigera</i>), with EC50 values ranging from 0.36 to 4.60 µg/cm2. In particular, (2R*,3R*,4S*,5R*,7S*,8S*,9S*,13S*,14S*,15R*)-2,5,9,14-tetraacetoxy-3-benzoyloxy-8,15-dihydroxy-7-isobutyroyloxyjatropha-6(17),11E-diene (Jatrophane 4) and (2R*,3R*, 4S*,5R*,7S*,8S*,9S*,13S*,14S*,15R*)-2,5,14-triacetoxy-3-benzoyloxy-8,15-dihydroxy-7-isobutyroyloxy-9-nicotinoyloxyjatropha-6(17),11E-diene(Jatrophane 3) had EC50 values of 0.36 and 0.43 µg/cm2, respectively, which were approximately 7-fold more potent than commercial neem oil (EC50 = 2.62 µg/cm2). In addition, the major peplusol showed obvious antifungal activity against three strains of agricultural phytopathogenic fungi, <i>Rhizoctonia solani</i> , <i>Colletotrichum litchi</i> and <i>Fusarium oxysporum</i> f. sp. <i>niveum</i> . CONCLUSIONS: The results indicated that terpenoids in the latex of <i>E. peplus</i> are rich and highly diversified, and might function as constitutive defense metabolites against insect herbivores and pathogens for the plant.

Solubility Information

Solubility	< 1 mg/ml refers to the product slightly soluble or insoluble
------------	---

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.343 mL	6.713 mL	13.426 mL
5 mM	0.269 mL	1.343 mL	2.685 mL
10 mM	0.134 mL	0.671 mL	1.343 mL
50 mM	0.027 mL	0.134 mL	0.269 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 °C for 6 months; - 20 °C for 1 month. Please use it as soon as possible.

Reference

1. Chemical profile and defensive function of the latex of *Euphorbia peplus*. *Phytochemistry*. 2017 Apr;136:56-64

[Inhibitors](#) · [Natural Compounds](#) · [Compound Libraries](#)

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use.

Tel:781-999-4286

E-mail:info@targetmol.com

Address:36 Washington Street,Wellesley Hills,MA 02481