

## Galeopsin

## Chemical Properties

CAS No.:	76475-16-6
Formula:	C <sub>22</sub> H <sub>32</sub> O <sub>5</sub>
Molecular Weight:	376.49
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).

## Biological Description

Description	Galeopsin shows potential anti-inflammatory activity by inhibiting proinflammatory cytokine TNF- $\alpha$ , it has anti-proliferative effect on several cancer cell lines.
Targets(IC <sub>50</sub> )	TNF- $\alpha$ : None
In vitro	Glandular trichomes of plants are biochemical factories that could produce, store and secrete copious pharmaceutically important natural products. The Labiatae plant <i>Leonurus japonicus</i> is an important traditional Chinese medicine used to treat gynecological diseases, and has abundant peltate glandular trichomes (PGTs), in which the secondary metabolites accumulated are still unknown. To study the secondary metabolites specifically accumulated in the PGTs of <i>L. japonicus</i> and their biological activities, and provide a new way to pinpoint bioactive natural products from plants. METHODS AND RESULTS: Morphology of the trichomes on <i>L. japonicus</i> were observed under a scanning electron microscope. The PGTs of <i>L. japonicus</i> were precisely collected using laser microdissection (LMD) and analysed for their secondary metabolites with ultra performance liquid chromatography-tandem mass spectrometry (UPLC-MS/MS). Targeted compounds were isolated with classical phytochemical methods, and their structures were elucidated by spectroscopic analysis. Biological activities were evaluated by in vitro assays. Two labdane diterpenoids, leoheterin (1) and Galeopsin (2), were localised in the PGTs of <i>L. japonicus</i> . Antithrombotic activity of 1 in anti-platelet aggregation assay induced by arachidonic acid was observed. Both compounds showed potential anti-inflammatory activity by inhibiting proinflammatory cytokine TNF- $\alpha$ . In addition, anti-proliferative effect of both compounds on several cancer cell lines was also detected. CONCLUSIONS: Two bioactive labdane diterpenoids were localised in the PGTs of <i>L. japonicus</i> . The findings suggested that it might be an efficient approach to explore bioactive natural products from the glandular trichomes of medicinal plants with LMD-UPLC/MS/MS.

## Solubility Information

Solubility	< 1 mg/ml refers to the product slightly soluble or insoluble
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## Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.656 mL	13.281 mL	26.561 mL
5 mM	0.531 mL	2.656 mL	5.312 mL
10 mM	0.266 mL	1.328 mL	2.656 mL
50 mM	0.053 mL	0.266 mL	0.531 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. Localisation of Two Bioactive Labdane Diterpenoids in the Peltate Glandular Trichomes of *Leonurus japonicus* by Laser Microdissection Coupled with UPLC-MS/MS. *Phytochem Anal.* 2017 Sep;28(5):404-409.

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