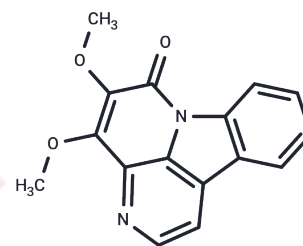


4,5-Dimethoxycanthin-6-one

Chemical Properties

CAS No. :	18110-87-7
Formula:	C ₁₆ H ₁₂ N ₂ O ₃
Molecular Weight:	280.28
Storage:	Store at low temperature, Keep away from direct sunlight Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



Biological Description

Description	4,5-Dimethoxycanthin-6-one is an alkaloid isolated from <i>Picrasma quassioides</i> BENNET (Simaroubaceae) with antimicrobial activity against <i>Staphylococcus aureus</i> and its drug-resistant strains. It is a potent, non-competitive inhibitor of CYP1A2-mediated phenacetin O-deethylation (IC ₅₀ : 1.7 μM, K _i : 2.6 μM) and a potent inhibitor of cyclic adenosine monophosphate (cAMP) phosphodiesterase. Additionally, it exhibits cytotoxicity to tumor cell lines U937 and HepG2.
Targets(IC ₅₀)	Antibacterial, Cytochromes P450, PDE
In vitro	4,5-Dimethoxycanthin-6-one demonstrates strong and uncompetitive inhibition against CYP1A2-mediated phenacetin O-deethylation with an IC ₅₀ value of 1.7 μM and a K _i value of 2.6 μM.[2]

Solubility Information

Solubility	DMSO: 9 mg/mL (32.11 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 1 mg/mL (3.57 mM), Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.5679 mL	17.8393 mL	35.6786 mL
5 mM	0.7136 mL	3.5679 mL	7.1357 mL
10 mM	0.3568 mL	1.7839 mL	3.5679 mL
50 mM	0.0714 mL	0.3568 mL	0.7136 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

- OHMoTo T, et al. Studies on the constituents of *Picrasma quassioides* BENNET. III. The alkaloidal constituents. *Chemical and pharmaceutical bulletin*. 1984;32(9): 3579-3583.
- Miao X, et al. In vitro metabolism of 4, 5-dimethoxycanthin-6-one by human liver microsomes and its inhibition on human CYP1A. *Life Sci*. 2017;190:46-51.
- Li W, et al. 4,5-Dimethoxycanthin-6-one is a novel LSD1 inhibitor that inhibits proliferation of glioblastoma cells and induces apoptosis and pyroptosis. *Cancer Cell Int*. 2022;22(1):32.

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