

4,5-Dimethoxycanthin-6-one

Chemical Properties

CAS No.:	18110-87-7
Formula:	C ₁₆ H ₁₂ N ₂ O ₃
Molecular Weight:	280.3
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).

Biological Description

Description	4,5-Dimethoxycanthin-6-one has antibacterial activity, it exhibits inhibition against <i>Staphylococcus aureus</i> and its drug-resistant strains. 4,5-Dimethoxycanthin-6-one has a strong inhibitory effect on cyclic adenosine monophosphate (cAMP) phosphodiesterase. It also shows cytotoxicity against the tumor cell lines, U937 and HepG2.
Targets(IC ₅₀)	Antifection: None cAMP: None
In vitro	Six alkaloid compounds were isolated from the chloroform soluble fraction of the methanolic extract of the wood of <i>Picrasma quassioides</i> Benn (Simarobaceae) as the cytotoxic components against the tumor cell lines, U937 and HepG2. METHODS AND RESULTS: The compounds were identified as 4,9-dimethoxy-1-vinyl- γ -carboline (1), 1-carbomethoxy- β -carboline (2), 4,5-Dimethoxycanthin-6-one (3), 5-hydroxy-4-methoxycanthin-6-one (4), 3-methoxycanthin-5,6-dione (5) and 4,8-dimethoxy-1-vinyl- β -carboline (6) by spectroscopic analysis. Among them, compound 5 showed the most potent cytotoxicity in a dose-dependent manner against the two tumor cell lines. CONCLUSIONS: This is the first report of the cytotoxic effect of those isolated compounds 1-5 on U937 and HepG2 cell lines.

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	3.568 mL	17.838 mL	35.676 mL
5 mM	0.714 mL	3.568 mL	7.135 mL
10 mM	0.357 mL	1.784 mL	3.568 mL
50 mM	0.071 mL	0.357 mL	0.714 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. Cytotoxic alkaloids from the wood of *Picrasma quassioides*. J. Korean Soc. Appl. Biol. Chem., 2009, 52(6):663-7.
2. Inhibitors of cyclic AMP phosphodiesterase in *Picrasma quassioides* Bennet, and inhibitory activities of related .BETA.-carboline alkaloids. Chem Pharm Bull (Tokyo). 1984 May;32(5):1872-7.
3. Chemical investigation of the alkaloids of Ku-Mu [*Picrasma quassioides* (D. Don) Benn. Yao Xue Xue Bao, 1979, 14(3):167-77.

Inhibitors · Natural Compounds · Compound Libraries

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