

Kaempferol 3,7,4'-trimethylether

Chemical Properties

CAS No.:	15486-34-7
Formula:	C ₁₈ H ₁₆ O ₆
Molecular Weight:	328.3
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).

Biological Description

Description	Kaempferol 3,7,4'-trimethylether shows selective cytotoxic activities against the nine tested cancer cell lines.
Targets(IC ₅₀)	NO Synthase: None
In vitro	The cytotoxicity of the methanol extracts of the above plants was determined using a resazurin reduction assay. Chromatographic techniques were used to isolate the constituents of <i>A. arundinaceum</i> . A preliminary experiment on leukemia CCRF-CEM cells at 40 µg/mL showed that the extracts from <i>A. kayserianum</i> and <i>A. alboviolaceum</i> as well as the isolated compounds namely compounds aframodial (1), 8(17),12-labdadien-15,16-dial (2), galanolactone (3), 1-p-menthene-3,6-diol (6) and 1,4-dimethoxybenzene (7) were less active, inducing more than 50% growth of this cell line contrary to <i>A. polyanthum</i> and <i>A. arundinaceum</i> extracts, galanals A (4) and B (5), naringenin (8) and Kaempferol 3,7,4'-trimethylether (9). The IC ₅₀ values below or around 30 µg/mL were recorded with <i>A. arundinaceum</i> extract against eight of the nine tested cancer cell lines. This extract as well as compound 8 displayed IC ₅₀ values below 40 µg/mL towards the nine tested cancer cell lines whilst <i>A. polyanthum</i> extract, compounds 4, 5 and 9 showed selective activities. Collateral sensitivity (hypersensitivity) was observed with <i>A. arundinaceum</i> extract towards leukemia CEM/ADR5000 cells and glioblastoma U87MG.αEGFR compared to their respective sensitive counterparts CEM/CEM and U87MG[1]

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	3.046 mL	15.23 mL	30.46 mL
5 mM	0.609 mL	3.046 mL	6.092 mL
10 mM	0.305 mL	1.523 mL	3.046 mL
50 mM	0.061 mL	0.305 mL	0.609 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. Cytotoxicity of four Aframomum species (A. arundinaceum, A. alboviolaceum, A. kayserianum and A. polyanthum) towards multi-factorial drug resistant cancer cell lines. BMC Complement Altern Med. 2014 Sep 19;14:340.

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