

Germanicol acetate

### Chemical Properties

CAS No.:	10483-91-7
Formula:	C32H52O2
Molecular Weight:	468.76
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).

### Biological Description

Description	Germanicol acetate shows some slight cytotoxic activity against Jurkat cells .
Targets(IC <sub>50</sub> )	Others: None
In vitro	<p>Euphorbia umbellata latex (sap) has normally been used in folk medicine in southern Brazil to treat different types of cancers. To carry out a biomonitored investigation of partitioned latex using in vitro assay, to identify the main mechanisms related with the action of the most active fraction as well as to develop a phytochemical study with this material. METHODS AND RESULTS: Biological screening was performed with hexane, chloroform, ethyl acetate and methanol fractions from the latex of E. umbellata using MTT, trypan blue, and neutral red assays to determine the cytotoxicity against HRT-18, HeLa and Jurkat cells and flow cytometry, DNA quantification, acridine orange and Hoechst 33342 staining to investigate mechanisms of action for the hexane extract. The phytochemical study of the hexane fraction was performed by chromatographic procedures and the substances were identified by NMR analysis. The isolated terpenes were evaluated using MTT to determine the cytotoxicity against Jurkat cells. All the fractions presented concentration and time dependent cytotoxicity. The hexane fraction showed the highest cytotoxicity; whereas the Jurkat cell was the lineage with the highest sensitivity (IC<sub>50</sub> 1.87µg/mL). Fragmentation of DNA and apoptosis are two mechanisms related with the toxicity of hexane fraction. The hexane fraction arrested the cell cycle in the G<sub>0</sub>/G<sub>1</sub> phase, and the selectivity index was 4.30. Phytochemical study of the hexane fraction led to isolation of euphol (main compound) and Germanicol acetate. Both substances demonstrated some slight cytotoxic activity against Jurkat cells after 72h; however the activity was minimal compared to vincristine (anticancer standard drug). CONCLUSIONS: The current research proves that the fractions of the latex from E. umbellata have a cytotoxic effect against three different cancer cells lines. The hexane fraction showed high in vitro cytotoxic effects against Jurkat cells demonstrating that the effect may be due to non-polar constituents. The two isolated terpenes (euphol and Germanicol acetate) showed poor cytotoxic activity indicating that the anticancer properties of the extract may be caused by other substances present in the hexane fraction.</p>

### Solubility Information

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

	<b>1mg</b>	<b>5mg</b>	<b>10mg</b>
1 mM	2.133 mL	10.666 mL	21.333 mL
5 mM	0.427 mL	2.133 mL	4.267 mL
10 mM	0.213 mL	1.067 mL	2.133 mL
50 mM	0.043 mL	0.213 mL	0.427 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 biomonitored study of Euphorbia umbellata (Pax) Bruyns. J Ethnopharmacol. 2016 May 13;183:29-37.

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