

Drimenol

Chemical Properties

CAS No. :	468-68-8
Formula:	C ₁₅ H ₂₆ O
Molecular Weight:	222.37
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.

Biological Description

Description	Drimenol is a sesquiterpene alcohol derived from edible aromatic plants and possesses broad-spectrum antifungal activity. It exerts its fungicidal effects by disrupting the cell wall/membrane structure of fungi. Drimenol also exhibits cytotoxicity and anticancer potential, and is capable of inducing apoptosis in tumor cells.
Targets(IC50)	Apoptosis,Antifection
In vitro	<p>Method: Human pathogenic fungi (e.g., <i>Candida albicans</i>, <i>Cryptococcus neoformans</i>, <i>Aspergillus fumigatus</i>) were treated with drimenol (4-64 µg/mL), and the minimum inhibitory concentration (MIC) was determined using the broth microdilution method.</p> <p>Result: Drimenol exhibited broad-spectrum fungicidal activity against various fungi, with MIC values of 8 µg/mL against <i>Cryptococcus neoformans</i> and <i>Aspergillus fumigatus</i>, 30-32 µg/mL against <i>Candida albicans</i> (including fluconazole-resistant strains), and 50 µg/mL against <i>Candida auris</i> [1].</p> <p>Method: Human melanoma cells A2058 and A375 were treated with drimenol (12-25 µM) for 72 h. Cell viability was assessed by MTT assay, DNA fragmentation was detected by TUNEL assay, and the expression levels of Hsp70, Bcl-2, Bax, and caspase-9 were analyzed by Western blot.</p> <p>Result: Drimenol dose-dependently inhibited the viability of A2058 and A375 cells, with IC50 values of approximately 33.50 µM and 31.25 µM, respectively. It also induced DNA fragmentation, downregulated Hsp70 and Bcl-2, and upregulated Bax and caspase-9, suggesting that drimenol induces apoptosis through the mitochondrial pathway [1].</p>
In vivo	<p>Method: Ehrlich ascites tumor-bearing mice were treated with <i>Siparuna guianensis</i> essential oil containing drimenol (drimenol content: 13.7 ± 0.2%). Tumor cell count, as well as hepatic malondialdehyde (MDA) and superoxide dismutase (SOD) levels, were measured.</p> <p>Result: The tumor cell count in the treatment group (59.76 ± 12.33) was significantly reduced compared to the untreated control group (96.88 ± 19.15). Additionally, hepatic MDA levels were decreased, and SOD levels were increased, indicating that the essential oil exerts antitumor and antioxidant effects through drimenol [1].</p>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.497 mL	22.485 mL	44.9701 mL
5 mM	0.8994 mL	4.497 mL	8.994 mL
10 mM	0.4497 mL	2.2485 mL	4.497 mL
50 mM	0.0899 mL	0.4497 mL	0.8994 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

Yang Z, et al. Unveiling Drimenol: A Phytochemical with Multifaceted Bioactivities. *Plants (Basel)*. 2024;13(17): 2492.

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