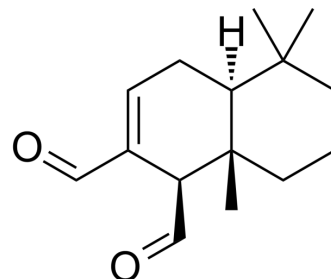


## Polygodial

Cat. No.:	HY-108450
CAS No.:	6754-20-7
Molecular Formula:	C <sub>15</sub> H <sub>22</sub> O <sub>2</sub>
Molecular Weight:	234.33
Target:	Fungal
Pathway:	Anti-infection
Storage:	-20°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : ≥ 100 mg/mL (426.75 mM)  
\* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	4.2675 mL	21.3374 mL	42.6749 mL
	5 mM	0.8535 mL	4.2675 mL	8.5350 mL
	10 mM	0.4267 mL	2.1337 mL	4.2675 mL

Please refer to the solubility information to select the appropriate solvent.

#### In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.5 mg/mL (10.67 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.5 mg/mL (10.67 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.5 mg/mL (10.67 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Polygodial (Poligodial) is an antifungal potentiator<sup>[1]</sup>. Polygodial is a sesquiterpene with anti-hyperalgesic properties<sup>[2]</sup>.

#### In Vitro

Polygodial exhibits fungicidal activity against *Saccharomyces cerevisiae*, *Candida albicans*, and other fungal pathogens in standardized susceptibility tests (NCCLS). Polygodial (12.5 µg/mL, 3 hours) induces significant shrinkage compared to controls in *Saccharomyces cerevisiae* cells with the minimum fungicidal concentration (MFC) for 10<sup>6</sup> CFU/mL in RPMI 1640 medium<sup>[3]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.  
Cell Viability Assay<sup>[3]</sup>

	<table border="1"> <tr> <td>Cell Line:</td> <td>S. cerevisiae cells</td> </tr> <tr> <td>Concentration:</td> <td>12.5 µg/mL</td> </tr> <tr> <td>Incubation Time:</td> <td>3 hours</td> </tr> <tr> <td>Result:</td> <td>Treated cells exhibited significant shrinkage compared to controls, and the organization of subcellular organelles appears either disrupted or compacted.</td> </tr> </table>	Cell Line:	S. cerevisiae cells	Concentration:	12.5 µg/mL	Incubation Time:	3 hours	Result:	Treated cells exhibited significant shrinkage compared to controls, and the organization of subcellular organelles appears either disrupted or compacted.
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<b>In Vivo</b>	<p>Polygodial is a sesquiterpene isolated from the barks of <i>Drymis winteri</i> (Winteraceae). Polygodial (0.5 to 10 mg/kg; 0.5 h; given by i.p. route to mice) induces significant, dose-related and almost complete inhibition of Acetic acid, Kaolin and Zymosan-induced abdominal constrictions. The calculated mean ID<sub>50</sub> values are 0.8, 2.1 and 2.6 mg/kg and maximal inhibitions of 90.0±3.0, 98.0±1.0 and 97.0±2.0 %, against Acetic acid, Kaolin and Zymosan, respectively. Polygodial is about 14- to 27-fold more potent than the hydroalcoholic extract (HE) at the ID<sub>50</sub> level<sup>[2]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1"> <tr> <td>Animal Model:</td> <td>Non-fasted male Swiss mice (20-30 g) or male Wistar rats (150-180 g)<sup>[2]</sup></td> </tr> <tr> <td>Dosage:</td> <td>0.1 to 10 mg/kg</td> </tr> <tr> <td>Administration:</td> <td>Injected i.p. 0.5 h before the injection of irritant substances</td> </tr> <tr> <td>Result:</td> <td>Produced significant inhibition of Acetic acid, Kaolin and Zymosan-induced writhing in mice.</td> </tr> </table>	Animal Model:	Non-fasted male Swiss mice (20-30 g) or male Wistar rats (150-180 g) <sup>[2]</sup>	Dosage:	0.1 to 10 mg/kg	Administration:	Injected i.p. 0.5 h before the injection of irritant substances	Result:	Produced significant inhibition of Acetic acid, Kaolin and Zymosan-induced writhing in mice.
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## REFERENCES

- [1]. I Kubo, et al. Polygodial, an antifungal potentiator. *J Nat Prod.* Jan-Feb 1988;51(1):22-9.
- [2]. G L Mendes, et al. Anti-hyperalgesic properties of the extract and of the main sesquiterpene polygodial isolated from the barks of *Drymis winteri* (Winteraceae). *Life Sci.* 1998;63(5):369-81.
- [3]. C S Lunde, et al. Effect of polygodial on the mitochondrial ATPase of *Saccharomyces cerevisiae*. *Antimicrob Agents Chemother.* 2000 Jul;44(7):1943-53.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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