



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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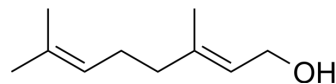
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## Geraniol

Cat. No.:	HY-N6952
CAS No.:	106-24-1
Molecular Formula:	C <sub>10</sub> H <sub>18</sub> O
Molecular Weight:	154.25
Target:	Fungal; Endogenous Metabolite; Apoptosis; Bacterial
Pathway:	Anti-infection; Metabolic Enzyme/Protease; Apoptosis
Storage:	4°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 (648.30 mM)  
 H<sub>2</sub>O : 1 mg/mL (6.48 mM; ultrasonic and warming and heat to 80°C)  
 \* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg
	1 mM		6.4830 mL	32.4149 mL	64.8298 mL
	5 mM		1.2966 mL	6.4830 mL	12.9660 mL
	10 mM		0.6483 mL	3.2415 mL	6.4830 mL

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

#### In Vivo

- Add each solvent one by one: PBS  
Solubility: 100 mg/mL (648.30 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.5 mg/mL (16.21 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.5 mg/mL (16.21 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.5 mg/mL (16.21 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Geraniol is an olefin terpene with oral activity. Geraniol inhibits cell proliferation and promotes apoptosis. Geraniol has antibacterial, antifungal, antioxidant, anti-inflammatory and antitumor activities. Geraniol can be used to study diabetes<sup>[1][2][3][4][5]</sup>.

#### IC<sub>50</sub> & Target

Human Endogenous Metabolite

**In Vitro**

Geraniol (0.25-1 mM, 24, 48, 72 h) blocks the cell cycle and induces apoptosis in PC-3 cells<sup>[2]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay <sup>[2]</sup>

Cell Line:	PC-3
Concentration:	0.068, 0.125, 0.25, 0.5, 1 mM
Incubation Time:	72 h
Result:	Decreased cell growth in a concentration-dependment manner.

Cell Cycle Analysis <sup>[2]</sup>

Cell Line:	PC-3
Concentration:	0.25, 0.5, 1 mM
Incubation Time:	24 h
Result:	Increased the percentage of G1 and/or sub-G1 phase cells.

Western Blot Analysis <sup>[2]</sup>

Cell Line:	PC-3
Concentration:	0.25, 0.5, 1 mM
Incubation Time:	24 h
Result:	Increased the activity of caspase-3. Reduced the expressions of four cyclin isotypes (cyclin A, B, D, and E), two of CDK family (CDK1 and CDK4), and two anti-apoptotic Bcl-2 family members (Bcl-2 and Bcl-w). Elevated the expressions of two CDK inhibitory proteins (p21 and p27) and two pro-apoptotic Bcl-2 family members (Bax and BNIP3).

**In Vivo**

Geraniol (60, 300 mg/kg, subcutaneously injected into tumor cells daily for 38 consecutive days) inhibits tumor growth in PC-3 nude mouse tumor models<sup>[2]</sup>.

Geraniol (200 mg/kg, orally, for 45 consecutive days) improves hyperglycemia by reducing a key enzyme in carbohydrate metabolism induced by streptomycin (HY-13753) in diabetic rats<sup>[3]</sup>.

Geraniol (100 mg/kg/day, orally, for 4 weeks) alleviates oxidative stress, bioaccumulation, serological and histopathological changes during aluminum chloride hepatopancreas poisoning in male Wistar rats<sup>[4]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	PC-3 cell xenograft in nude mice <sup>[2]</sup>
Dosage:	60, 300 mg/kg
Administration:	s.c.
Result:	Reduced the tumor volume and weight. Increased the percentage of apoptotic cells and reduced the expression level of Ki-67.

Animal Model:	Streptozotocin-induced diabetic rats <sup>[3]</sup>
Dosage:	200 mg/kg

Administration:	p.o.
Result:	Decreased the body weight in diabetes rats and decreased blood glucose and increased plasma insulin to near normal. Reverted the levels of Hb and HbA1C towards near normal and reversed the activities of these enzymes to near normal.
Animal Model:	Aluminum chloride-hepatopancreatic toxicity rats <sup>[4]</sup>
Dosage:	100 mg/kg
Administration:	p.o.
Result:	Reduced AST, ALT, ALP, LDH, pancreatic enzymes and FBS levels. Reduced the MDA and Increased the TAC levels.

## REFERENCES

- [1]. Kim SH, et al. Geraniol inhibits prostate cancer growth by targeting cell cycle and apoptosis pathways. *Biochem Biophys Res Commun*. 2011 Apr 1;407(1):129-34.
- [2]. Babukumar S, et al. Geraniol, a natural monoterpene, ameliorates hyperglycemia by attenuating the key enzymes of carbohydrate metabolism in streptozotocin-induced diabetic rats. *Pharm Biol*. 2017 Dec;55(1):1442-1449.
- [3]. Hosseini SM, et al. Geraniol attenuates oxidative stress, bioaccumulation, serological and histopathological changes during aluminum chloride-hepatopancreatic toxicity in male Wistar rats. *Environ Sci Pollut Res Int*. 2020 Jun;27(16):20076-20089.
- [4]. Pereira Fde O, et al. Antifungal activity of geraniol and citronellol, two monoterpenes alcohols, against *Trichophyton rubrum* involves inhibition of ergosterol biosynthesis. *Pharm Biol*. 2015 Feb;53(2):228-34.
- [5]. Bard M, et al. Geraniol interferes with membrane functions in strains of *Candida* and *Saccharomyces*. *Lipids*. 1988 Jun;23(6):534-8.

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

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