



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

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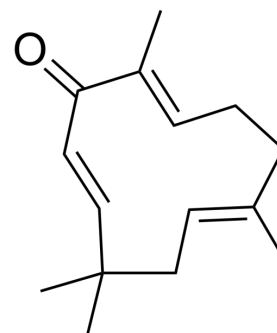
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## Zerumbone

Cat. No.:	HY-N7015
CAS No.:	471-05-6
Molecular Formula:	C <sub>15</sub> H <sub>22</sub> O
Molecular Weight:	218.33
Target:	Caspase; Apoptosis; Bacterial; EBV
Pathway:	Apoptosis; Anti-infection
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : ≥ 125 mg/mL (572.53 mM)

\* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	4.5802 mL	22.9011 mL	45.8022 mL
	5 mM	0.9160 mL	4.5802 mL	9.1604 mL
	10 mM	0.4580 mL	2.2901 mL	4.5802 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: ≥ 2.08 mg/mL (9.53 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: 2.08 mg/mL (9.53 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.08 mg/mL (9.53 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Zerumbone is an orally active natural cyclic sesquiterpene and can be isolated from Zingiber zerumbet. Zerumbone has anti-proliferative, anti-inflammation, anti-cancer, anti-bacterial and anti-mutagenic activity<sup>[1][2][3][4]</sup>.

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

Caspase 3

#### In Vitro

Zerumbone (20.3/24.3/27.7 μM, 72 h) exert antiproliferative effects toward HeLa, Coav-3, and MCF-7 cells<sup>[1]</sup>.  
Zerumbone (20.3 μM, 72 h) has an apoptogenic effect on HeLa cells<sup>[1]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### Cell Proliferation Assay<sup>[1]</sup>

Cell Line:	HeLa, Coav-3, and MCF-7
Concentration:	20.3 $\mu$ M for HeLa, 24.3 $\mu$ M for Coav-3, 27.7 $\mu$ M for MCF-7
Incubation Time:	72 h
Result:	Showed IC <sub>50</sub> values of 20.30 $\pm$ 1.1, 24.30 $\pm$ 0.9 and 27.7 $\pm$ 1.2 $\mu$ M for HeLa, Coav-3, and MCF-7.

### Apoptosis Analysis<sup>[1]</sup>

Cell Line:	HeLa
Concentration:	20.3 $\mu$ M
Incubation Time:	72 h
Result:	Significantly stimulated caspase-3. Triggered morphological features that relates to apoptosis in a time-dependent manner.

### In Vivo

Zerumbone (5-100 mg/kg, Intraperitoneal injection, single dose/once a day for 7 consecutive days) has anti-inflammatory effect in acute exudative/chronic proliferative models of inflammation in mice<sup>[2]</sup>.  
Zerumbone (100-500 ppm, Oral, supplemented in daily diet for 17 weeks) has chemopreventive effect on AOM (HY-111375)/DSS-induced colon carcinogenesis in mice<sup>[3]</sup>.  
Zerumbone (100-500 ppm, Oral, supplemented in daily diet for 21 weeks) has chemopreventive effect on NNK (HY-126477)-induced lung carcinogenesis in mice.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Carrageenan (HY-125474)-induced mice paw edema/Cotton pellet-induced granuloma mice <sup>[2]</sup>
Dosage:	5 mg/kg, 10 mg/kg, 50 mg/kg, 100 mg/kg
Administration:	Intraperitoneal injection (i.p.)
Result:	Significantly produced dose-dependent inhibition of paw oedema induced by carrageenan in mice with inhibition of 33.3, 66.7, 83.3, and 83.3%, respectively. Produced a significant reduction on the granulomatous tissue formation on implanted cotton pellets with inhibition of 34.8, 60.6 and 70.6%, respectively.

## REFERENCES

- [1]. Abdel Wahab S I, et al. In vitro ultramorphological assessment of apoptosis induced by zerumbone on (HeLa) [J]. BioMed Research International, 2009, 2009.
- [2]. Sulaiman M R, et al. Anti-inflammatory effect of zerumbone on acute and chronic inflammation models in mice [J]. Fitoterapia, 2010, 81(7): 855-858.
- [3]. Kim M, et al. Zerumbone, a tropical ginger sesquiterpene, inhibits colon and lung carcinogenesis in mice [J]. International journal of cancer, 2009, 124(2): 264-271.
- [4]. Kumar S C S, et al. Antibacterial and antimutagenic activities of novel zerumbone analogues [J]. Food Chemistry, 2013, 141(2): 1097-1103.

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

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