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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
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- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

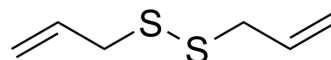
mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

Diallyl disulfide

Cat. No.:	HY-W015635
CAS No.:	2179-57-9
Molecular Formula:	C ₆ H ₁₀ S ₂
Molecular Weight:	146.27
Target:	Others
Pathway:	Others
Storage:	4°C, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (683.67 mM; Need ultrasonic)						
	Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg	
				1 mM	6.8367 mL	34.1834 mL	68.3667 mL
				5 mM	1.3673 mL	6.8367 mL	13.6733 mL
				10 mM	0.6837 mL	3.4183 mL	6.8367 mL
Please refer to the solubility information to select the appropriate solvent.							
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (17.09 mM); Clear solution						
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (17.09 mM); Clear solution						
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (17.09 mM); Clear solution						

BIOLOGICAL ACTIVITY

Description	Diallyl disulfide, an active compound in garlic oil, is an orally active human squalene monooxygenase inhibitor with an IC ₅₀ of 400 μM for squalene epoxidation. Diallyl disulfide exhibits obvious anti-inflammatory, anti-oxidative, antidepressant and anti-tumor activities ^{[1][2][3][4]} .
In Vitro	Diallyl disulfide (30, 60, 120, 240 μM; 12, 24, 48 h) suppresses HT-29 cell growth ^[2] . Diallyl disulfide (30, 60, 120 μM; 24 h) induces cell cycle arrest in the G2/M-phase in HT-29 cells in a concentration-independent manner ^[2] . Diallyl disulfide (120 μM) induces the mRNA levels of ARPC3, SPINT2, SOD1, p21 and TACSTD2 ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay^[2]

Cell Line:	HT-29 cells
Concentration:	30, 60, 120 and 240 μ M
Incubation Time:	12, 24, 48 h
Result:	Suppressed HT-29 cell growth by 5.3, 23.1, 45.6 and 68.3% with 30, 60, 120 and 240 μ M for 24 h, respectively.

Cell Cycle Analysis^[2]

Cell Line:	HT-29 cells
Concentration:	30, 60, 120 μ M
Incubation Time:	24 h
Result:	The percentage of cells in the G2/M-phase was found to be 23.6, 25.9, 39.7 and 61.0% with 30, 60, 120 and 240 μ M, respectively.

RT-PCR^[2]

Cell Line:	HT-29 cells
Concentration:	120 μ M
Incubation Time:	
Result:	The mRNA levels of ARPC3, SPINT2, SOD1, p21 and TACSTD2 were 3.52-, 7.98-, 15.6-, 13.47- and 5.92-fold higher than those in the primary cultured cells, respectively.

In Vivo

Diallyl disulfide (40, 80 mg/kg; IP; pre-treatment 1 h) has a prophylactic effect in LPS-induced depression-like behaviors in mice^[3].

Diallyl disulfide (30, 60, 90 mg/kg; oral gavage; three times/week for the last 30 days) dose-dependently reduces cigarette smoke (CS) -induced leukocyte infiltration into the airways and improves lung histology in C57BL/6 mice were exposed to CS for 60 consecutive days^[4].

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

Animal Model:	Male C57BL6/J mice (6-8 weeks) ^[3]
Dosage:	40, 80 mg/kg
Administration:	IP; pre-treatment 1 h before a single LPS injection (100 μ g/kg)
Result:	Prevented LPS-induced increases in immobility time in the TST and FST in mice. Did not affect the locomotor activity in mice with or without LPS treatment.

REFERENCES

[1]. You-Sheng Huang, et al. Diallyl disulfide inhibits the proliferation of HT-29 human colon cancer cells by inducing differentially expressed genes. *Mol Med Rep.* 2011 May-Jun;4(3):553-9.

[2]. Xiaoyou Wei, et al. Acute Diallyl Disulfide Administration Prevents and Reverses Lipopolysaccharide-Induced Depression-Like Behaviors in Mice via Regulating Neuroinflammation and Oxido-Nitrosative Stress. *Inflammation.* 2021 Aug;44(4):1381-1395.

[3]. Aline de Oliveira Pontes Cardoso, et al. Diallyl disulfide prevents cigarette smoke-induced emphysema in mice. *Pulm Pharmacol Ther.* 2021 Aug;69:102053.

[4]. Gupta N, et al. Garlic and garlic-derived compounds inhibit human squalene monooxygenase. *J Nutr.* 2001;131(6):1662-1667.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA