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- Diagnostik & molekulare Diagnostik
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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Sulforaphene

Cat. No.: HY-N2450

CAS No.: 592-95-0

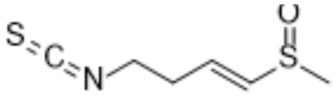
Molecular Formula: $C_6H_9NOS_2$

Molecular Weight: 175.27

Target: Apoptosis; EGFR; ERK; NF-κB; Microtubule/Tubulin

Pathway: Apoptosis; JAK/STAT Signaling; Protein Tyrosine Kinase/RTK; MAPK/ERK Pathway; Stem Cell/Wnt; NF-κB; Cell Cycle/DNA Damage; Cytoskeleton

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 (570.55 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	5.7055 mL	28.5274 mL	57.0548 mL
	5 mM	1.1411 mL	5.7055 mL	11.4110 mL
	10 mM	0.5705 mL	2.8527 mL	5.7055 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 (14.26 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (14.26 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (14.26 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Sulforaphene, isolated from radish seeds, exhibits an ED_{50} against velvetleaf seedlings approximately 2 x 10^{-4} M. Sulforaphene promotes cancer cells apoptosis and inhibits migration via inhibiting EGFR, p-ERK1/2, NF-κB and other signals[1][2][3][4].

In Vitro

Sulforaphene (0-80 μM, 48 h) inhibits HCC (HepG2 and Hep3B cells) cell viability and induces apoptosis[4].
Sulforaphene (0-40 μM) sensitizes radiosensitivity of HepG2 and Hep3B cells, and promotes radiation-induced cell death[4].
Sulforaphene (0-10 μM, 24 h) inhibits SUM159 cell migration and invasion by inhibiting Hedgehog signaling[5].
Sulforaphene (5 μM, 24 h) inhibits microtubule polymerization in HCT116 and HT-29 cells[6].

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

Western Blot Analysis[5]

Cell Line:	HepG2 and Hep3B cell
Concentration:	0-40 μM
Incubation Time:	48 h
Result:	Increased Bax expression and reduced Bcl-2 expression. Inhibited expression of NF-κB-dependent genes (COX-2, iNos, and cyclinD1).

In Vivo

Sulforaphene (1 and 5 mg/kg, i.p., everyday) inhibits tumor growth in a mouse HCT116 xenograft model[6].

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

Animal Model:	Mouse HCT116 xenograft model[6]
Dosage:	1 and 5 mg/kg
Administration:	i.p., everyday
Result:	Inhibited tumor growth, and increased CDK1, MK2, and p38 phosphorylation.

REFERENCES

[1]. Bao C, et al. Sulforaphene Interferes with Human Breast Cancer Cell Migration and Invasion through Inhibition of Hedgehog Signaling. J Agric Food Chem. 2016 Jul 13;64(27):5515-24.

[2]. Byun S, et al. Sulforaphene suppresses growth of colon cancer-derived tumors via induction of glutathione depletion and microtubule depolymerization. Mol Nutr Food Res. 2016 May;60(5):1068-78.

[3]. Kuang P, et al. Separation and purification of sulforaphene from radish seeds using macroporous resin and preparative high-performance liquid chromatography. Food Chem. 2013 Jan 15;136(2):342-7.

[4]. Anita M. Brinker, et al. Herbicidal activity of sulforaphene from stock (Matthiola incana). Journal of Chemical Ecology. Vol. 19. No. 10, 1993.

[5]. Mondal A, et al. Sulforaphene promotes Bax/Bcl2, MAPK-dependent human gastric cancer AGS cells apoptosis and inhibits migration via EGFR, p-ERK1/2 down-regulation. General Physiology and Biophysics, 27 Nov 2015, 35(1):25-34.

[6]. Ren K, et al. Sulforaphene enhances radiosensitivity of hepatocellular carcinoma through suppression of the NF-κB pathway. J Biochem Mol Toxicol. 2017 Aug;31(8).

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