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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- 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

Dendrophenol

Cat. No.: HY-N6031

CAS No.: 108853-14-1

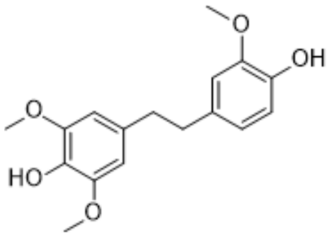
Molecular Formula: $C_{17}H_{20}O_5$

Molecular Weight: 304.34

Target: NF-κB; Apoptosis; COX; HIF/HIF Prolyl-Hydroxylase; Wnt; β-catenin; JNK

Pathway: NF-κB; Apoptosis; Immunology/Inflammation; Metabolic Enzyme/Protease; Stem Cell/Wnt; MAPK/ERK Pathway

Storage: -20°C, protect from light
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 61 mg/mL (200.43 mM)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.2858 mL	16.4290 mL	32.8580 mL
	5 mM	0.6572 mL	3.2858 mL	6.5716 mL
	10 mM	0.3286 mL	1.6429 mL	3.2858 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 (8.21 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (8.21 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.21 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Dendrophenol (Moscatilin) is a NF-κB inhibitor that inhibits inflammation. Dendrophenol exerts potent cytotoxic effect against tumor cells and induces cell cycle arrest and apoptosis. Dendrophenol has antitumor activity. In addition, Dendrophenol can inhibit vascular calcification[1][2][3][4].

IC_{50} & Target	NF-κB	COX-2	HIF-1α

In Vitro

Dendrophenol (5-100 μM; 1 h) inhibits the expression of COX-2, iNOS, HIF-1α and NF-κB and inhibits cell activation in LPS

(HY-D1056) treated macrophages[1].
Dendrophenol (0-50 μM; 15 h-6 days) exerts potent cytotoxic effect against tumor cell lines from placenta, lung and stomach, and can cause cell G2 phase arrest[2].
Dendrophenol (1 μM; 4 days) reduces calcium deposition via the WNT3/β-catenin pathway and reduces calcification induced inflammation by IL13RA2 and STAT3 in Phosphate-treated human aortic smooth muscle cells[3].
Dendrophenol (3-30 μM; 24 h) induces apoptosis of human colon cancer cell HCT-116 by tubulin depolymerization, DNA damage stress and JNK signaling pathway[4].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]

Cell Line:	LPS (HY-D1056) treated RAW264.7 cells
Concentration:	10, 30, 50 and 100 μM
Incubation Time:	1 h
Result:	Inhibited the levels of COX-2 and iNOS in a concentration‐dependent manner.

Western Blot Analysis[3]

Cell Line:	Phosphate treated HASMCs
Concentration:	1 μM
Incubation Time:	4 days
Result:	Reduced the levels of WNT3 and β-catenin. Increased the level of IL13RA2. Reduced the levels of p-STAT3, IL-1β and IL-6.

Western Blot Analysis[4]

Cell Line:	HCT-116 cells
Concentration:	3, 10 and 30 μM
Incubation Time:	24 h
Result:	Increased the phosphorylation level of JNK1/2.

In Vivo

Dendrophenol (10 mg/kg; intraperitoneal injection; 3 weeks) has a beneficial effect in the mouse model of vascular calcification[3].
Dendrophenol (50-100 mg/kg; intraperitoneal injection; 5 times a week for 2 weeks) has antitumor effect in mouse tumor model[4].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Nicotine and Vitamin D3 (HY-15398) treated male C57BL/6J mice aged 25 weeks old[3]
Dosage:	10 mg/kg
Administration:	Intraperitoneal injection (i.p.); 3 weeks
Result:	Reduced calcium accumulation in the thoracic aorta and aortic valves of the mice. Reduced the expression of calcification-related genes, such as ALPL, BMP2 and RUNX2.

Animal Model:	HCT-116 cells treated male severe combined immunodeficient mice[4]
Dosage:	50 and 100 mg/kg
Administration:	Intraperitoneal injection (i.p.); five times a week for two weeks
Result:	Significantly inhibited tumor growth and did not result in weight loss.

REFERENCES

[1]. Liu YN, et al. Moscatilin repressed lipopolysaccharide-induced HIF-1alpha accumulation and NF-kappaB activation in murine RAW264.7 cells. Shock. 2010 Jan;33(1):70-5.

[2]. Ho CK, et al. Moscatilin from the orchid Dendrobrium loddigesii is a potential anticancer agent. Cancer Invest. 2003;21(5):729-36.

[3]. Zhang T, et al. Moscatilin inhibits vascular calcification by activating IL13RA2-dependent inhibition of STAT3 and attenuating the WNT3/β-catenin signalling pathway. J Adv Res. 2024 Mar 2:S2090-1232(24)00082-1.

[4]. Chen TH, et al. Moscatilin induces apoptosis in human colorectal cancer cells: a crucial role of c-Jun NH2-terminal protein kinase activation caused by tubulin depolymerization and DNA damage. Clin Cancer Res. 2008 Jul 1;14(13):4250-8.

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