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Zuschläge

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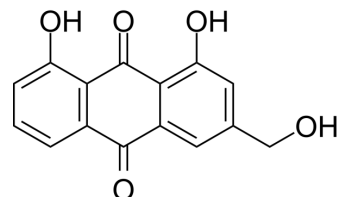
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Aloe emodin

Cat. No.:	HY-N0189
CAS No.:	481-72-1
Molecular Formula:	C ₁₅ H ₁₀ O ₅
Molecular Weight:	270.24
Target:	Autophagy; mTOR; Apoptosis; Influenza Virus
Pathway:	Autophagy; PI3K/Akt/mTOR; Apoptosis; Anti-infection
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 20.83 mg/mL (77.08 mM)
 * "≥" means soluble, but saturation unknown.

	Solvent Concentration	Mass	1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM		3.7004 mL	18.5021 mL	37.0041 mL
	5 mM		0.7401 mL	3.7004 mL	7.4008 mL
	10 mM		0.3700 mL	1.8502 mL	3.7004 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 (7.70 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
 Solubility: 2.08 mg/mL (7.70 mM); Suspended solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description	Aloe emodin (Rhabarberone) is a natural hydroxyanthraquinone with antitumor activities. aloe-emodin can bind with mTORC2 and inhibit its kinase activity. Aloe emodin exerts antiproliferation effects and induces cellular apoptosis ^[1] . Aloe emodin also exhibits antiviral activity that against influenza A virus ^[2] .
IC ₅₀ & Target	mTORC2
In Vitro	Aloe emodin (0-15 μM; 24-96 h) inhibits PC3 cell proliferation in a dose-dependent manner ^[1] . Aloe emodin (0-15 μM; 24 h) inhibits the activation of mTORC2 downstream substrates, Akt and PKCα. Aloe emodin could bind with mTORC2 in cells and inhibit its kinase activity ^[1] .

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

Cell Viability Assay^[1]

Cell Line:	PC3 cells
Concentration:	0 μ M, 2.5 μ M, 5 μ M, 10 μ M or 15 μ M
Incubation Time:	24 h, 48 h, 72 h or 96 h
Result:	Suppressed proliferation and anchorage-independent growth of PC3 cells.

Western Blot Analysis^[1]

Cell Line:	PC3 cells
Concentration:	0 μ M, 2.5 μ M, 5 μ M, 10 μ M or 15 μ M
Incubation Time:	24 h
Result:	Inhibited the activation of the downstream substrates of mTORC2, Akt and PKC α .

In Vivo

Aloe emodin (10-50 mg/kg) suppresses tumor growth by inhibiting mTOR complex2 activity^[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Athymic nude mice (BALB/c nude mouse, 6 weeks old) ^[1]
Dosage:	10 mg/kg, 50 mg/kg (20% PEG400 in autoclaved PBS)
Administration:	Intraperitoneal injection, five times per week; for 28 days
Result:	Exhibited tumor suppression effects in vivo in an athymic nude mouse model.

CUSTOMER VALIDATION

- Biomed Res Int. 2021 Sep 9;2021:9066938.

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REFERENCES

- [1]. Liu K, et al. Aloe-emodin suppresses prostate cancer by targeting the mTOR complex 2. Carcinogenesis. 2012 Jul;33(7):1406-11.
- [2]. Li SW, et al. Antiviral activity of aloe-emodin against influenza A virus via galectin-3 up-regulation. Eur J Pharmacol. 2014 Sep 5;738:125-32.

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

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