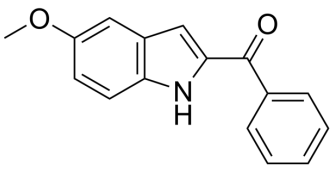
D-64131

Cat. No.:	HY-15482
CAS No.:	74588-78-6
Molecular Formula:	$C_{16}H_{13}NO_2$
Molecular Weight:	251.28
Target:	Microtubule/Tubulin
Pathway:	Cell Cycle/DNA Damage; Cytoskeleton
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 : ≥ 100 mg/mL (397.96 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.9796 mL	19.8981 mL	39.7962 mL
5 mM	0.7959 mL	3.9796 mL	7.9592 mL
10 mM	0.3980 mL	1.9898 mL	3.9796 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 (9.95 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

D-64131 is an orally active tubulin inhibitor, with an IC_{50} of 0.53 μM for tubulin polymerization. D-64131 has antimitotic activity. D-64131 can be used for cancer research[1][2].

IC_{50} & Target

IC50: 0.53 μM (tubulin polymerization)[2]

In Vitro

D-64131 is antimitotic by binding to β-tubulin, thereby destabilizing microtubules and arresting mitotic cells in the M-phase [1].

D-64131 inhibits the proliferation of tumor cells from 12 of 14 different organs and tissues with mean IC_{50}s of 62 nM[1].

D-64131 is cytotoxic toward MDR/MRP tumor cell lines[1].

D-64131 suppresses U373 proliferation and cell cycle with IC_{50}s of 74 nM and 62.7nM, respectively[2].

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

Cell Cycle Analysis[1]

Cell Line:	HeLa/KB cervical carcinoma cells
Concentration:	1 nM-1 μM
Incubation Time:	48 hours
Result:	Induced dose-dependently arrested in G2-M before induction of apoptotic cell death.

In Vivo

D-64131 (200-400 mg/kg; p.o.; daily; days 1-5, 8-9, and 15-18) significantly inhibits tumor growth in the human amelanoic melanoma MEXF 989 tumor xenograft mice model[1].
D-64131 has oral bioavailability and is well tolerated at efficacious doses[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Outbred nude mice (6-8 weeks), human amelanoic melanoma MEXF 989 tumor xenograft model[1]
Dosage:	200 mg/kg, 400 mg/kg
Administration:	Oral administration, daily, on days 1-5, 8-9, and 15-18 after xenograft
Result:	Resulted in significant tumor growth inhibition during treatment.

CUSTOMER VALIDATION

- FEBS Lett. 2020 Jan;594(1):199-204.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Thomas Beckers, et al. 2-Aroylindoles, a novel class of potent, orally active small molecule tubulin inhibitors. Cancer Research (2002), 62(11), 3113-3119.

[2]. S Mahboobi, et al. Synthetic 2-aroylindole derivatives as a new class of potent tubulin-inhibitory, antimitotic agents. J Med Chem. 2001 Dec 20;44(26):4535-53.

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