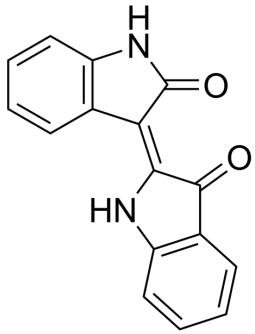
Indirubin

Cat. No.:	HY-N0117
CAS No.:	479-41-4
Molecular Formula:	$C_{16}H_{10}N_2O_2$
Molecular Weight:	262.26
Target:	Apoptosis
Pathway:	Apoptosis
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 5 mg/mL (19.07 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.8130 mL	19.0650 mL	38.1301 mL
	5 mM	0.7626 mL	3.8130 mL	7.6260 mL
	10 mM	0.3813 mL	1.9065 mL	3.8130 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: ≥ 1 mg/mL (3.81 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Indirubin (Couroupitine B) is a bis-indole alkaloid and has emarkable anticancer activity against chronic myelocytic leukemia[1][2].

In Vitro

Indirubin (Couroupitine B) significantly inhibits Td-EC proliferation, migration, invasion, and angiogenesis[1].

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

Cell Proliferation Assay[1]

Cell Line:	Human umbilical vein endothelial cells (HUVEC) line; tumor-derived endothelial cells (Td-EC).
Concentration:	5, 10μM

Incubation Time:	24, 48, 72 hours
Result:	Inhibited Td-EC proliferation in a dose- and time-dependent manner.

Cell Invasion Assay[1]

Cell Line:	Human umbilical vein endothelial cells (HUVEC) line; tumor-derived endothelial cells (Td-EC).
Concentration:	5μM
Incubation Time:	overnight
Result:	Inhibited Td-EC migration, invasion, and angiogenesis.

In Vivo

Indirubin (Couroupitine B) (12.5 mg/kg, 25 mg/kg; intraperitoneal injected; once a day for 14 days) may reduce the pathological alterations in a dose-dependent manner[3].

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

Animal Model:	Male mice (C57BL/6) [3]
Dosage:	12.5 mg/kg, 25 mg/kg
Administration:	Indirubin (12.5 mg/kg, 25 mg/kg; intraperitoneal injected; once a day for 14 days)
Result:	Attenuated alterations of lung structure induced by BLM.

CUSTOMER VALIDATION

- Biomater Sci. 2022 May 4;10(9):2215-2223.
- Cancer Cell Int. 2021 Jun 5;21(1):291.
- J Ethnopharmacol. 2024 Feb 2:117778.
- Nutr Metab. 2020 Mar 16;17:21.
- Iran J Basic Med Sci. 2023 Sep; 26: 1047-1052.

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REFERENCES

[1]. Li, Zhuohong, et al. Indirubin inhibits cell proliferation, migration, invasion and angiogenesis in tumor-derived endothelial cells. OncoTargets and therapy vol. 11 2937-2944. 18 May. 2018.

[2]. Mohan, Lakshmi, et al. Indirubin, a bis-indole alkaloid binds to tubulin and exhibits antimitotic activity against HeLa cells in synergism with vinblastine. Biomed Pharmacother. 2018 Sep;105:506-517.

[3]. Wang, Qi, et al. Indirubin alleviates bleomycin-induced pulmonary fibrosis in mice by suppressing fibroblast to myofibroblast differentiation. Biomedicine pharmacotherapy vol. 131 (2020): 110715.

[4]. Kim MH, et al. Indirubin, a purple 3,2- bisindole, inhibited allergic contact dermatitis via regulating T helper (Th)-mediated immune system in DNCB-induced model. J Ethnopharmacol. 2013 Jan 9;145(1):214-9.

[5]. Hsieh WL, et al. Indirubin, an acting component of indigo naturalis, inhibits EGFR activation and EGF-induced CDC25B gene expression in epidermal keratinocytes. J

Dermatol Sci. 2012 Aug;67(2):140-6.

[6]. Zhang X, et al. Indirubin inhibits tumor growth by antitumor angiogenesis via blocking VEGFR2-mediated JAK/STAT3 signaling in endothelial cell. Int J Cancer. 2011 Nov 15;129(10):2502-11.

[7]. Alex D, et al. Indirubin shows anti-angiogenic activity in an in vivo zebrafish model and an in vitro HUVEC model. J Ethnopharmacol. 2010 Sep 15;131(2):242-7.

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

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