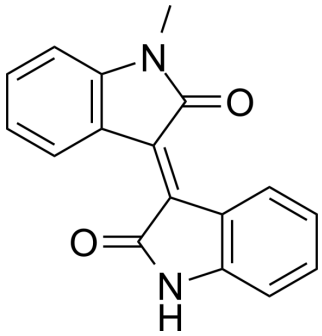
Meisoindigo

Cat. No.:	HY-13680		
CAS No.:	97207-47-1		
Molecular Formula:	$C_{17}H_{12}N_2O_2$		
Molecular Weight:	276.29		
Target:	Apoptosis		
Pathway:	Apoptosis		
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 : ≥ 51 mg/mL (184.59 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.6194 mL	18.0969 mL	36.1939 mL
5 mM	0.7239 mL	3.6194 mL	7.2388 mL
10 mM	0.3619 mL	1.8097 mL	3.6194 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 (9.05 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Meisoindigo (Dian III), a derivative of Indirubin (HY-N0117), halts the cell cycle at the G0/G1 phase and induces apoptosis in primary acute myeloid leukemia (AML) cells. Meisoindigo exhibits high antitumor activity[1][2].

In Vitro

Meisoindigo (Dian III; 5-20 μM; for 24 hours) inhibits growth of the AML cell lines[1].
Meisoindigo (10 μM; for 24 hours) induces apoptosis of acute myeloid leukemia[1].
Meisoindigo (5-10 μM; for 24 hours) causes cell-cycle arrest[1].
Meisoindigo (5-10 μM; for 24 hours) increases the cleaved caspase-3 and pro-apoptotic Bak, and decreases Bcl-2 and Bcl-xL levels in HL-60 cells[1].
Meisoindigo (10, 30, 50, 100, 150 μM; 24 hours) interdicts LPS-induced (1 μg/mL) NLRP3 inflammasome activation and M1/M2 polarization through down-regulation of TLR4 pathways after OGD/R in HT-22 and BV2 cells[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	HL-60, NB4, U937 leukemic cell lines
Concentration:	5, 10, 15, 20 μM
Incubation Time:	For 24 hours
Result:	Inhibited growth of the AML cell lines in a dose- and time-dependent manner.

Apoptosis Analysis[1]

Cell Line:	HL-60 cells
Concentration:	10 μM
Incubation Time:	For 24 hours
Result:	Induced apoptosis of acute myeloid leukemia.

Cell Cycle Analysis[1]

Cell Line:	HL-60 cells
Concentration:	5, 10 μM
Incubation Time:	For 24 hours
Result:	Caused cell-cycle arrest, with more cells in sub-G1 and G0/G1 phases and fewer cells in the S phase, in a dose-dependent manner.

Western Blot Analysis[1]

Cell Line:	HL-60 cells
Concentration:	5, 10 μM
Incubation Time:	For 24 hours
Result:	Increased the cleaved caspase-3 and pro-apoptotic Bak, and decreased Bcl-2 and Bcl-xL levels in HL-60 cells.

In Vivo

Meisoindigo (Dian III; 50-150 mg/kg; IP; daily; for 14 days) has anti-leukemic activity in vivo[1].
Meisoindigo (2, 4, 8, 12 mg/kg; IP; before MCAO and 2 h after reperfusion) significantly reduces infarct volume, ameliorates neurological deficits 3 days after middle cerebral artery occlusion (MCAO) in Wild-type C57BL/6J mice (25-30 g). Meisoindigo reduces edema and lowers AQP4 expression in the brain[2].

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

Animal Model:	NOD/SCID mice, 6-8 weeks old, with HL-60 leukemic cells[1]
Dosage:	50, 100, 150 mg/kg
Administration:	IP; daily; for 14 days
Result:	Had anti-leukemic activity in vivo.

REFERENCES

[1]. Lee CC, et al. Meisoindigo is a promising agent with in vitro and in vivo activity against human acute myeloid leukemia. Leuk Lymphoma. 2010 May;51(5):897-905.

[2]. Yingze Ye, et al. Meisoindigo Protects Against Focal Cerebral Ischemia-Reperfusion Injury by Inhibiting NLRP3 Inflammasome Activation and Regulating Microglia/Macrophage Polarization via TLR4/NF-κB Signaling Pathway. Front Cell Neurosci. 2019 Dec 16;13:553.

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