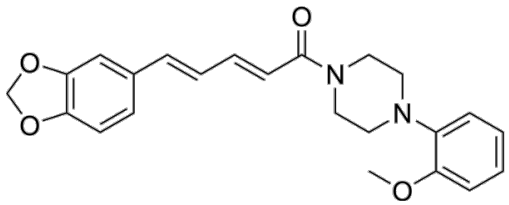
Product Data Sheet

Product Name: HJ-4
Cat. No.: GC79868

Chemical Properties

Cas. No.	1313741-00-2		
Formula	$C_{23}H_{24}N_2O_4$	M.Wt	392.45
Solubility	DMSO: 4 mg/mL (10.19 mM; ultrasonic and warming and heat to 60°C)	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			



Background

HJ-4 is a Piperine derivative. HJ-4 potently inhibits the proliferation of CRC cells by dose-dependently reducing colony formation and DNA synthesis. HJ-4 markedly suppresses the adhesion, migration, invasion and induces apoptosis of CRC cells. HJ-4 demonstrates anti-tumor efficacy in chicken embryo chorioallantoic membrane (CAM) model implanted with HCT116/SW480 tumor spheroids. HJ-4 can be used for the study of colorectal cancer (CRC) [1].

Caution: Product has not been fully validated for medical applications. For research use only.
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In Vivo, HJ-4 (8-32 μM, local application to tumor site, once daily for 7 days) inhibits angiogenesis in chicken embryo chorioallantoic membrane (CAM) model implanted with HCT116/SW480 tumor spheroids[1].

In Vitro, HJ-4 (3.125-100 μM, 24 h) inhibits viability of CRC cells (HCT116: IC_{50} = 15.82 μM; SW480: IC_{50} = 20.46 μM)[1]. HJ-4 (8-32 μM, 48 h) reduces colony number and size of HCT116/SW480 cells[1]. HJ-4 (8-32 μM, 24 h) decreases EdU-positive HCT116/SW480 cells in EdU incorporation assay, dose-dependently inhibiting DNA synthesis[1]. HJ-4 (8-32 μM, 0-48 h) inhibits adhesion, migration, and invasion of HCT116/SW480 cells[1]. HJ-4 (8-32 μM, 24 h) upregulates p53, PUMA, BAX, cleaved caspase-3, cleaved PARP, and downregulates BCL-2, β-catenin, Cyclin D1 in HCT116/SW480 cells[1]. HJ-4 (8-32 μM, 24 h) increases p53/BAX expression in HCT116/SW480 cells, and promotes YO-PRO-1 (early apoptosis) and PI (late apoptosis) positive cells in HCT116 cells via YO-PRO-1/PI staining[1].

References:
[1]. Zhang L, et al. HJ-4, a novel piperine derivative, inhibits tumor growth and angiogenesis via p53 activation and oncogenic pathway inhibition in colorectal cancer models. Sci Rep. 2025 Sep 29;15(1):33541.

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