Lipofermata

Cat. No.: HY-116788

CAS No.: 297180-15-5

Molecular Formula: $C_{15}H_{10}BrN_3OS$

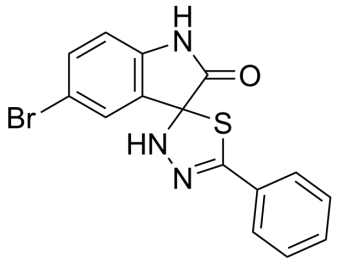
Molecular Weight: 360.23

Target: Bacterial

Pathway: Anti-infection

Storage:

Powder	-20°C	3 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (277.60 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.7760 mL	13.8800 mL	27.7600 mL
	5 mM	0.5552 mL	2.7760 mL	5.5520 mL
	10 mM	0.2776 mL	1.3880 mL	2.7760 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: ≥ 2.08 mg/mL (5.77 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (5.77 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Lipofermata is a fatty acid transport protein 2 (FATP2) inhibitor. Lipofermata shows fatty acid transport inhibition with an IC_{50} of 4.84 μM in Caco-2 cells. Lipofermata, an analog of spiro-indoline-thadiazole, shows zinc-specific suppression of antibacterial activity. Lipofermata perturbs zinc homeostasis in E. coli K-12 with a MIC of 16 μM[1][2][3].

In Vitro

Lipofermata inhibits C1-BODIPY-C12 transport into C2C12, INS-1E, Caco-2 and HepG2 cells at comparable levels yielding sigmoidal dose-response curves with IC_{50}s in the low micromolar range (IC_{50}=2.74-39.34 μM)[2].

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

CUSTOMER VALIDATION

- JHEP Rep. 2023 Aug 21.

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REFERENCES

[1]. Falconer SB, et al. Zinc Chelation by a Small-Molecule Adjuvant Potentiates Meropenem Activity in Vivo against NDM-1-Producing Klebsiella pneumoniae. ACS Infect Dis. 2015;1(11):533-543.

[2]. Sandoval A, et al. Identification and characterization of small compound inhibitors of human FATP2 [published correction appears in Biochem Pharmacol. 2012 Aug 15;84(4):580]. Biochem Pharmacol. 2010;79(7):990-999.

[3]. Ahowesso C, Black PN, Saini N, et al. Chemical inhibition of fatty acid absorption and cellular uptake limits lipotoxic cell death. Biochem Pharmacol. 2015;98(1):167-181.

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