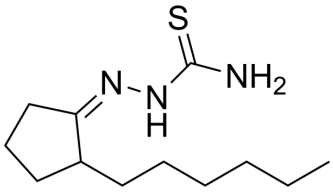
BLT-1

Cat. No.:	HY-116767
CAS No.:	321673-30-7
Molecular Formula:	$C_{12}H_{23}N_3S$
Molecular Weight:	241
Target:	HCV
Pathway:	Anti-infection
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 : 41.67 mg/mL (172.90 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	4.1494 mL	20.7469 mL	41.4938 mL
	5 mM	0.8299 mL	4.1494 mL	8.2988 mL
	10 mM	0.4149 mL	2.0747 mL	4.1494 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 (8.63 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.08 mg/mL (8.63 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (8.63 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

BLT-1, a thiosemicarbazone copper chelator, is a selective scavenger receptor B, type 1 (SR-BI) inhibitor. BLT-1 inhibits the transfer of lipids between high-density lipoproteins (HDL) and cells mediated by SR-BI. BLT-1 is a potent HCV entry inhibitor [1][2][3][4].

In Vitro

BLT-1 has IC_{50}s of 60 and 110 nM for cellular DiI-HDL and [^{3}H]CE-HDL uptake in ldlA[mSR-BI] cells[1].
BLT-1 has an IC_{50} of 0.96 μM for the HCV entry in Huh 7.5.1 cells[4].
BLT-1 (50 μM; 3 hours) does not induce general defects in clathrin-dependent and -independent intracellular membrane

trafficking in HeLa, BSC-1 cells[1].
BLT-1 can inhibit SR-BI-dependent selective uptake of [^{3}H]CE from [^{3}H]CE-HDL by mSR-BI-t1-containing liposomes in cells (IC_{50}=0.057 μM) and liposomes (IC_{50}=0.098 μM) [2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Cancer Discov. 2022 Nov 4;CD-22-0535.
- FEBS J. 2021 Dec 17.

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REFERENCES

[1]. Raldúa D, et al. BLT-1, a specific inhibitor of the HDL receptor SR-BI, induces a copper-dependent phenotype during zebrafish development. Toxicol Lett. 2007 Dec 10;175(1-3):1-7. Epub 2007 Aug 22.

[2]. Nieland TJ, et al. Identification of the molecular target of small molecule inhibitors of HDL receptor SR-BI activity. Biochemistry. 2008 Jan 8;47(1):460-72.

[3]. Nieland TJ, et al. Discovery of chemical inhibitors of the selective transfer of lipids mediated by the HDL receptorSR-BI. Proc Natl Acad Sci U S A. 2002 Nov 26;99(24):15422-7.

[4]. Hirofumi Ohashi, et al. Reply to Padmanabhan and Dixit: Hepatitis C virus entry inhibitors for optimally boosting direct-acting antiviral-based treatments. Proc Natl Acad Sci U S A. 2017 Jun 6;114(23):E4527-E4529.

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