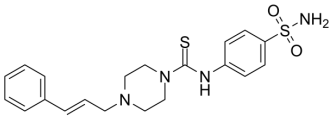
LF3

Cat. No.:	HY-101486
CAS No.:	664969-54-4
Molecular Formula:	$C_{20}H_{24}N_4O_2S_2$
Molecular Weight:	416.56
Target:	β-catenin
Pathway:	Stem Cell/Wnt

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 : 250 mg/mL (600.15 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.4006 mL	12.0031 mL	24.0061 mL
5 mM	0.4801 mL	2.4006 mL	4.8012 mL
10 mM	0.2401 mL	1.2003 mL	2.4006 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 (6.00 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (4.99 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.99 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

LF3 is an antagonist of the β-Catenin/TCF4 interaction with antitumor activity; has an IC_{50} of 1.65 μM.

IC_{50} & Target

IC50: 1.65 μM (β-Catenin/TCF4, AlphaScreen), 1.82 μM (β-Catenin/TCF4, ELISA)[1]

In Vitro

LF3 inhibits Wnt/β-catenin signals in cells with exogenous reporters and in colon cancer cells with endogenously high Wnt activity. LF3 also suppresses features of cancer cells related to Wnt signaling, including high cell motility, cell-cycle progression, and the overexpression of Wnt target genes. However, LF3 does not cause cell death or interfere with cadherin-

	mediated cell-cell adhesion. Remarkably, the self-renewal capacity of cancer stem cells is blocked by LF3 in concentration-dependent manners[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	LF3 reduces tumor growth and induces differentiation in a mouse xenograft model of colon cancer. Tumor growth is significantly reduced when mice with GFP^{high} cells are treated with LF3 at 50 mg/kg. LF3 treatment does not disturb the normal histology of the gut of mice[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [1]	LF3 is dissolved in DMSO to a concentration of 50 mM and diluted with culture medium. Two colon cancer cell lines (HCT116 and HT29) and a breast cancer cell line (MCF7) are treated with LF3 (0, 30, 60 μM) for 24 hours and labeled with BrdUrd for 4 to 5 hours to detect proliferating cells[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [1]	Mice: Unsorted GFP^{low} and GFP^{high} SW480 cells are subcutaneously injected into the back skin of NOD/SCID mice. Tumor growth is monitored over a period of 45 days. For therapy, LF3 is administered i.v. at 50 mg/kg body weight for three rounds over 5 consecutive days, with 2-day breaks[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Mil Med Res. 2022 Sep 27;9(1):54.
- Sci Adv. 2022 Dec 9;8(49):eabq8596.
- Comput Struct Biotec. 2023 Jan 16.
- Mol Cancer Res. 2022 Mar 4;molcanres.0923.2021.
- Biochem Biophys Res Commun. 2019 Aug 27;516(3):819-824.

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REFERENCES

[1]. Fang L, et al. A Small-Molecule Antagonist of the β-Catenin/TCF4 Interaction Blocks the Self-Renewal of Cancer Stem Cells and Suppresses Tumorigenesis. Cancer Res. 2016 Feb 15;76(4):891-901.

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