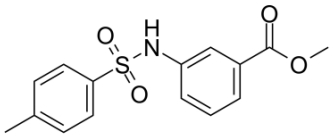
MSAB

Cat. No.:	HY-120697
CAS No.:	173436-66-3
Molecular Formula:	$C_{15}H_{15}NO_4S$
Molecular Weight:	305.35
Target:	Wnt
Pathway:	Stem Cell/Wnt

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (818.73 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.2749 mL	16.3747 mL	32.7493 mL
5 mM	0.6550 mL	3.2749 mL	6.5499 mL
10 mM	0.3275 mL	1.6375 mL	3.2749 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 (6.81 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (6.81 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

MSAB is a potent and selective inhibitor of Wnt/β-catenin signaling. MSAB binds to β-catenin promoting its degradation, and specifically downregulates Wnt/β-catenin target genes. MSAB exhibits potent anti-tumor effects selectively on Wnt-dependent cancer cells[1].

IC_{50} & Target

Wnt/β-catenin[1]

In Vitro

MSAB (2-10 μM) selectively decreases cell viability of Wnt-dependent cells while showing little effect on Wnt-independent cells and normal human cells[1].
MSAB (0.01-10 μM; 20 h) inhibits T-cell factor (TCF) luciferase reporter activity in HCT116 cells[1].
MSAB (20 h) suppresses the Wnt3a-induced TOP-Luc activation and increases of active β-catenin levels in HEK293T cells[1].

	MSAB (0.5-10 μM; 20 h) decreases mRNA and protein levels of endogenous Wnt target genes in HCT116 cells[1]. MSAB (5 μM; 16 h) induces degradation of β-catenin in a proteasome-dependent manner in HCT116 cells[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	MSAB (10-20 mg/kg; i.p. daily for 2 weeks) inhibits tumor growth of Wnt-dependent cancer cells in mouse xenograft model[1]. MSAB (10-20 mg/kg; i.p. twice daily for 2 weeks) inhibits tumor growth of MMTV-Wnt1 transgenic mice[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Athymic nude mice (5-6 weeks) are injected HCT116, HT115, H23, or H460 cells[1]
Dosage:	10, 20 mg/kg
Administration:	I.p. daily for 2 weeks
Result:	Reduced the size and weight of various types of Wnt-dependent HCT116, HT115, and H23 tumors.

REFERENCES

[1]. Hwang SY, et, al. Direct Targeting of β-Catenin by a Small Molecule Stimulates Proteasomal Degradation and Suppresses Oncogenic Wnt/β-Catenin Signaling. Cell Rep. 2016 Jun 28;16(1):28-36.

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