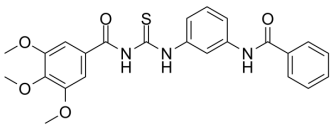
MRT-10

Cat. No.:	HY-108507
CAS No.:	330829-30-6
Molecular Formula:	$C_{24}H_{23}N_3O_5S$
Molecular Weight:	465.52
Target:	Smo
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 : 100 mg/mL (214.81 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.1481 mL	10.7407 mL	21.4814 mL
	5 mM	0.4296 mL	2.1481 mL	4.2963 mL
	10 mM	0.2148 mL	1.0741 mL	2.1481 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.37 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

MRT-10 is a seven-transmembrane receptor smoothened (Smo) antagonist with an IC_{50} of 0.65 μM in the micromolar range in various Hedgehog (Hh) assays. MRT-10 binds to the Smo receptor at the level of the Bodipycyclopamine binding site. MRT-10 can be used for the research of cancer[1][2].

In Vitro

MRT-10 inhibits the Smo-induced IP accumulation in a dosedependent manner (IC_{50}=2.5 μM) in HEK293 cells[1].
MRT-10 (10^{-9}-10^{-5} M; 2 h) blocks Bodipy-cyclopamine (5 nM; 2 h) binding to cells expressing mouse Smo in a dosedependent manner with an IC_{50}=0.5 μM[1].
MRT-10 (10^{-9}-10^{-5} M; 40 h) inhibits ShhN signaling in Shh-light2 cells in a dose-dependent manner with an IC_{50}=0.64 μM[1].
MRT-10 (10^{-9}-10^{-5} M; 6 days) inhibits the SAG-induced (0.1 μM) alkaline phosphatase (AP) activity with an IC_{50}=0.90 μM) in C3H10T1/2 cells[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Manetti F, et al. Virtual screening-based discovery and mechanistic characterization of the acylthiourea MRT-10 family as smoothened antagonists. Mol Pharmacol. 2010 Oct;78(4):658-65.

[2]. Solinas A, et al. Acylthiourea, acylurea, and acylguanidine derivatives with potent hedgehog inhibiting activity. J Med Chem. 2012 Feb 23;55(4):1559-71.

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