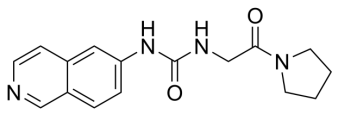
SGC707

Cat. No.:	HY-19715
CAS No.:	1687736-54-4
Molecular Formula:	$C_{16}H_{18}N_4O_2$
Molecular Weight:	298.34
Target:	Histone Methyltransferase
Pathway:	Epigenetics
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 : ≥ 100 mg/mL (335.19 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.3519 mL	16.7594 mL	33.5188 mL
5 mM	0.6704 mL	3.3519 mL	6.7038 mL
10 mM	0.3352 mL	1.6759 mL	3.3519 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: ≥ 3 mg/mL (10.06 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 3 mg/mL (10.06 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 3 mg/mL (10.06 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

SGC707 is a potent, selective, and non-competitive PRMT3 (protein arginine methyltransferase 3) inhibitor (IC_{50}=31 nM, K_d =53 nM).

IC_{50} & Target

PRMT3

31 nM (IC_{50})

In Vitro

SGC707 (0-10 μM; 6 h) binds to PRMT3 in both HEK293 and A549 cells[1].

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

Cell Viability Assay[1]

Cell Line:	HEK293 and A549 cells
Concentration:	0-10 μM
Incubation Time:	6 hours
Result:	Stabilized PRMT3 in both HEK293 and A549 cells with EC_{50} values of 1.3 μM and 1.6 μM, respectively.

In Vivo

SGC707 (intraperitoneal injection; 10 mg/kg; 3 times per week; 3 w) treatment reduces hepatic steatosis and plasma triglyceride levels and induces pruritus in Western-type diet-fed LDL receptor knockout mice[2].

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

Animal Model:	Western-type diet-fed LDL (lipoprotein) receptor knockout mice[2]
Dosage:	10 mg/kg
Administration:	Intraperitoneal injection; 10 mg/kg; 3 times per week; 3 weeks
Result:	Exhibited 50% lower liver triglyceride stores as well as 32% lower plasma triglyceride levels.

CUSTOMER VALIDATION

- Adv Sci (Weinh). 2023 Nov 16:e2303812.
- Proc Natl Acad Sci U S A. 2019 Feb 19;116(8):2961-2966.
- Clin Transl Med. 2022 Jan;12(1):e686.
- Cell Death Dis. 2021 Nov 9;12(11):1066.
- FASEB J. 2020 Aug;34(8):10212-10227.

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REFERENCES

[1]. de Jong LM, et al. PRMT3 inhibitor SGC707 reduces triglyceride levels and induces pruritus in Western-type diet-fed LDL receptor knockout mice. Sci Rep. 2022 Jan 10;12(1):483.

[2]. Kaniskan HÜ, et al. A potent, selective and cell-active allosteric inhibitor of protein arginine methyltransferase 3 (PRMT3). Angew Chem Int Ed Engl. 2015 Apr 20;54(17):5166-70.

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