KCC-07

Cat. No.: HY-131031

CAS No.: 315702-75-1

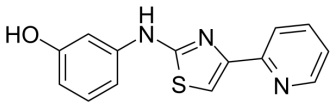
Molecular Formula: $C_{14}H_{11}N_3OS$

Molecular Weight: 269.32

Target: DNA Alkylator/Crosslinker

Pathway: Cell Cycle/DNA Damage

Storage: 4°C, protect from light
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (464.13 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.7131 mL	18.5653 mL	37.1306 mL
	5 mM	0.7426 mL	3.7131 mL	7.4261 mL
	10 mM	0.3713 mL	1.8565 mL	3.7131 mL

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

In Vivo

1. Add each solvent one by one: 50% PEG300 >> 50% saline
   Solubility: 16.67 mg/mL (61.90 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (7.72 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (7.72 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (7.72 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

KCC-07 is a potent, selective and brain-penetrant MBD2 (methyl-CpG-binding domain protein 2) inhibitor. KCC-07 prevents binding of MBD2 to methylated DNA and activates brain specific angiogenesis inhibitor 1 (BAI1) inducing anti-proliferative BAI1/p53/p21 signaling. Anticancer activity[1].

IC_{50} & Target

MBD2 (methyl-CpG-binding domain protein 2)[1]

In Vitro

KCC-07 (10 μM; 72 hours; MB cells) treatment clearly inhibited MB cell growth in vitro, consistent with induction of anti-

proliferative BAI1/p53/p21 signaling[1].
KCC-07 (10 μM; 48 hours; MB cells) treatment largely abrogates MBD2 binding to the ADGRB1 promoter and restores BAI1 mRNA and protein expression in BAI1-silent MB cells[1].

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

Cell Viability Assay[1]

Cell Line:	Medulloblastomas (MB) cells
Concentration:	10 μM
Incubation Time:	72 hours
Result:	Clearly inhibited MB cell growth in vitro.

Western Blot Analysis[1]

Cell Line:	Medulloblastomas (MB) cells
Concentration:	10 μM
Incubation Time:	48 hours
Result:	Largely abrogated MBD2 binding to the ADGRB1 promoter in BAI1-silent MB cells.

In Vivo

KCC-07 (100 mg/kg; intraperitoneal injection; 5 days/week; athymic nude mice) treatment inhibits tumor growth and significantly extends the survival of MB xenografts in vivo[1].

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

Animal Model:	Outbred athymic nude mice (females; 8-10 weeks old) injected with MB cells[1]
Dosage:	100 mg/kg
Administration:	Intraperitoneal injection; 5 days/week
Result:	Significantly extended the survival of MB xenografts in vivo.

REFERENCES

[1]. Dan Zhu, et al. BAI1 Suppresses Medulloblastoma Formation by Protecting p53 From Mdm2-Mediated Degradation. Cancer Cell. 2018 Jun 11;33(6):1004-1016.e5.

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