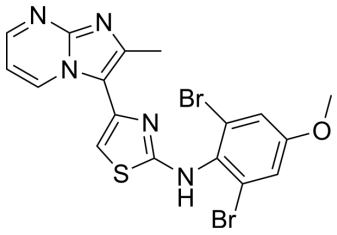
PTC-209

Cat. No.:	HY-15888
CAS No.:	315704-66-6
Molecular Formula:	$C_{17}H_{13}Br_2N_5OS$
Molecular Weight:	495.19
Target:	Autophagy
Pathway:	Autophagy
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 : ≥ 32 mg/mL (64.62 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.0194 mL	10.0971 mL	20.1943 mL
5 mM	0.4039 mL	2.0194 mL	4.0389 mL
10 mM	0.2019 mL	1.0097 mL	2.0194 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 (5.05 mM); Suspended solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

PTC-209 is a specific BMI-1 inhibitor with an IC_{50} of 0.5 μM in HEK293T cell line. PTC-209 irreversibly impairs colorectal cancer-initiating cells (CICs). PTC-209 shows potent anti-myeloma activity and impairs the tumor microenvironment[1][2].

IC_{50} & Target

IC50: 0.5 μM (BMI-1, in HT1080 tumor cells)[1]

In Vitro

PTC-209 (0.01-10 μM; 24-72 hours) induces a concentration- and time-dependent decrease in the cellular viability of all cell lines tested[2].

PTC-209 (1-2.5 μM) inhibits STAT3 phosphorylation in A549 lung cancer cells and MDA-MB-231 breast cancer cells[2].

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

Cell Viability Assay[2]

Cell Line:	Lung (LNM35, A549 cells), breast (MDA-MB-231 and T47D cells), and colon (HT-29, HCT-116, and HCT8/S11 cells)
Concentration:	0.01-10 μM
Incubation Time:	24, 48, and 72 hour
Result:	Induced a concentration- and time-dependent decrease in the cellular viability of all cell lines tested.

In Vivo

PTC-209 (60 mg/kg body weight; subcutaneously; once a day for 11 days) significantly reduces tumor volume[1].

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

Animal Model:	Nude mice (male, aged 8-10 weeks, HCT1116 cell-derived tumor)[1]
Dosage:	60 mg/kg body weight
Administration:	Subcutaneously; once a day for 11 days
Result:	Significantly reduced tumor volume

CUSTOMER VALIDATION

- Cell Stem Cell. 2017 May 4;20(5):621-634.e6.
- Nat Commun. 2018 Feb 5;9(1):500.
- Acta Biomater. 2023 Aug 17;S1742-7061(23)00482-8.
- Pharmacol Res. 2020 Dec 8;105365.
- Oncogene. 2020 Jan;39(1):17-29.

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REFERENCES

[1]. Kreso A, et al. Self-renewal as a therapeutic target in human colorectal cancer. Nat Med. 2014 Jan;20(1):29-36.

[2]. Chen D, et al. Targeting BMI1+ Cancer Stem Cells Overcomes Chemoresistance and Inhibits Metastases in Squamous Cell Carcinoma. Cell Stem Cell. 2017 May 4;20(5):621-634.e6.

[3]. Sulaiman S, et al. PTC-209 Anti-Cancer Effects Involved the Inhibition of STAT3 Phosphorylation. Front Pharmacol. 2019;10:1199. Published 2019 Oct 21.

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