Ompenaclid

Cat. No.: HY-W015828

CAS No.: 353-09-3

Molecular Formula: $C_4H_9N_3O_2$

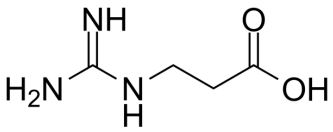
Molecular Weight: 131

Target: Endogenous Metabolite; Apoptosis

Pathway: Metabolic Enzyme/Protease; Apoptosis

Storage:

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



SOLVENT & SOLUBILITY

In Vitro

H_2O : ≥ 50 mg/mL (381.68 mM)

DMSO : < 1 mg/mL (ultrasonic;warming;heat to 60°C) (insoluble or slightly soluble)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	7.6336 mL	38.1679 mL	76.3359 mL
5 mM	1.5267 mL	7.6336 mL	15.2672 mL
10 mM	0.7634 mL	3.8168 mL	7.6336 mL

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

BIOLOGICAL ACTIVITY

Description

Ompenaclid (RGX-202) is an oral small-molecule SLC6A8 transporter inhibitor. Ompenaclid robustly inhibits creatine import in vitro and in vivo, reduces intracellular phosphocreatine and ATP levels, and induces tumor apoptosis. Ompenaclid can be used for the research of cancer and duchenne muscular dystrophy[1][2].

IC_{50} & Target

Human Endogenous Metabolite

In Vitro

Ompenaclid (RGX-202; 10 μM; 96 hours) reduces cell growth, and reveals a nearly complete depletion of phosphocreatine (>99%), greater than 79% reduction in cellular creatine and a substantial (46%) reduction in intracellular ATP levels relative to control cells in hypoxia[1].

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

In Vivo

Ompenaclid (RGX-202; 800 mg/kg; p.o. for 35 days) reduces UN-KPC-961 pancreatic tumoral creatine levels in B6129SF1/J mice[1].

?Ompenaclid (approximately 650 mg/kg; i.p. daily for 14 days) treatment reduces Lvm3b cells liver metastatic colonization by eightfold in NOD-SCID mice[1].

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

Animal Model:	UN-KPC-961 pancreatic tumor-bearing B6129SF1/J mice[1]
Dosage:	800 mg/kg
Administration:	p.o. for 35 days
Result:	Suppressed tumoral d3-creatine import by 50% at 800 mg/kg.

Animal Model:	6- to 9-week-old C57BL/6J male wild-type mice[1]
Dosage:	100, 250, 500 mg/KG in sterile 0.9% NaCl
Administration:	p.o. for 35 days
Result:	Inhibited tissue uptake of d3-creatine in a dose-dependent manner by up to 75% at 500 mg/kg.

CUSTOMER VALIDATION

- OncoImmunology. 2023 Apr 19.

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REFERENCES

[1]. Creisméas A, et, al. TRPC1 and TRPC3 involvement in DMD physiopathology and as potential targets for treatment in complement to rAAV-microdystrophin. 2021 Oct 1;13.

[2]. Kurth I, et al. Therapeutic targeting of SLC6A8 creatine transporter suppresses colon cancer progression and modulates human creatine levels. Sci Adv. 2021 Oct 8;7(41):eabi7511.

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