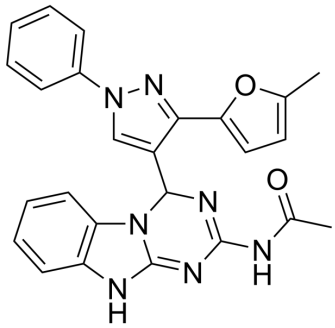
PRGL493

Cat. No.:	HY-139180
CAS No.:	2479378-45-3
Molecular Formula:	$C_{25}H_{21}N_7O_2$
Molecular Weight:	451.48
Target:	Others
Pathway:	Others
Storage:	-20°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 5 mg/mL (11.07 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.2149 mL	11.0747 mL	22.1494 mL
5 mM	0.4430 mL	2.2149 mL	4.4299 mL
10 mM	0.2215 mL	1.1075 mL	2.2149 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: ≥ 1.25 mg/mL (2.77 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1.25 mg/mL (2.77 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.25 mg/mL (2.77 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

PRGL493 is a potent and selective long-chain acyl-CoA synthetase 4 (ACSL4) inhibitor. PRGL493 blocks cell proliferation and tumor growth in both breast and prostate cellular and animal models. PRGL493 is used for cancer research[1].

IC_{50} & Target

IC50: ACSL4[1]

In Vitro

Acyl-CoA synthetase 4 (ACSL4) is an isoenzyme of the fatty acid ligase-coenzyme-A family taking part in arachidonic acid metabolism and steroidogenesis[1].
PRGL493 ([^{3}H]-AA (0.5 μCi/ml in serumfree medium) for 3 h; 48 hours) signifcantly inhibits the activity of ACSL4 in all three cell lines (MDA-MB-231, PC-3 and MA-10 Leydig cells), as evidenced by a reduction in AA-CoA levels.But PRGL493 has no

effects on ACSL4 protein expression[1].
PRGL493 (20-100 μM; 72 hours) inhibits the proliferation of highly aggressive breast and prostate cancer cells at an IC_{50} of 23 μM and 27 μM, respectively[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

PRGL493 (intraperitoneal injection; 250 μg/Kg; 43 and 34 consecutive days) decreases tumor volumes and inhibits tumor growth. Additionally, this compound results in a decrease in Ki67 protein expression and increases ER and AR expression in breast and prostate xenograft tumors, respectively[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	MDA-MB-231 or PC-3 cell suspensions mixed with Matrigel Matrix in a 3/1 dilution are injected into the right fank of NLAE:NIH(S)Fox1^{nu} mice, aged 7-8 weeks[1]
Dosage:	250 μg/kg
Administration:	Intraperitoneal injection; 250 μg/kg; 43 and 34 consecutive days
Result:	Inhibited tumor growth in vivo models

CUSTOMER VALIDATION

- Research Square Preprint. 2023 May 15.

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REFERENCES

[1]. Ana F Castillo, et al. New inhibitor targeting Acyl-CoA synthetase 4 reduces breast and prostate tumor growth, therapeutic resistance and steroidogenesis. Cell Mol Life Sci. 2021 Mar;78(6):2893-2910.

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