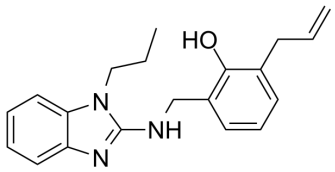
CM10

Cat. No.:	HY-135841
CAS No.:	692269-09-3
Molecular Formula:	$C_{20}H_{23}N_3O$
Molecular Weight:	321.42
Target:	Aldehyde Dehydrogenase (ALDH)
Pathway:	Metabolic Enzyme/Protease
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 : 125 mg/mL (388.90 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.1112 mL	15.5560 mL	31.1119 mL
	5 mM	0.6222 mL	3.1112 mL	6.2224 mL
	10 mM	0.3111 mL	1.5556 mL	3.1112 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: ≥ 2.08 mg/mL (6.47 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (6.47 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

CM10 is a potent and selective aldehyde dehydrogenase 1A (ALDH1A) family inhibitor, with IC_{50}s of 1700, 740, and 640 nM for ALDH1A1, ALDH1A2, and ALDH1A3, respectively. CM10 does not inhibit any of the other ALDH family members. CM10 can regulate metabolism and has anti-cancer activity[1].

IC_{50} & Target

IC50: 1700 nM (ALDH1A1), 740 nM (ALDH1A2) and 640 nM (ALDH1A3)[1]

In Vitro

CM10 (12.5, 25, 50, 100 μM; 1 hour) inhibits ALDEFLUOR activity in live cells and preferentially depletes $CD133^+$ ovarian cancer stem-like cells (CSCs)[1].
CM10 induces a cellular/nuclear swelling necroptotic phenotype[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Chefetz I, et al. A Pan-ALDH1A Inhibitor Induces Necroptosis in Ovarian Cancer Stem-like Cells. Cell Rep. 2019 Mar 12;26(11):3061-3075.e6.

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