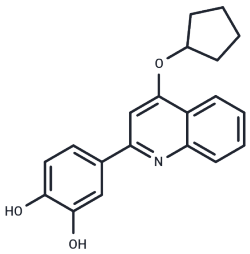
Data Sheet (Cat.No.T14991)

TargetMol

CMS-121

Chemical Properties



CAS No. : 1353224-53-9

Formula: C20H19NO3

Molecular Weight: 321.37

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	CMS-121, a quinolone derivative, is an orally active acetyl-CoA carboxylase 1 (ACC1) inhibitor. CMS-121 protects HT22 cells against ischemia and oxidative damage (EC50: 7 nM and 200 nM). CMS-121 shows strong neuroprotective, antioxidative, anti-inflammatory, and renoprotective activities.
Targets(IC50)	Acetyl-CoA Carboxylase
In vitro	CMS-121 can increase acetyl-CoA in cells. CMS-121 (1 μM; 4 hours; HT22 cells) treatment also increases the phosphorylation of ACC1 at serine 79.[1].
In vivo	CMS-121 preserves mitochondrial homeostasis by regulating acetyl-coenzyme A (acetyl-CoA) metabolism. CMS-121 (~20 mg/kg; p.o; daily; for 4 months; female SAMP8 mice) treatment decreases cognitive decline and metabolic and transcriptional markers of aging in the brain when administered to rapidly aging SAMP8 mice. [1].

Solubility Information

Solubility	DMSO: 55 mg/mL (171.14 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (6.22 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.1117 mL	15.5584 mL	31.1168 mL
5 mM	0.6223 mL	3.1117 mL	6.2234 mL
10 mM	0.3112 mL	1.5558 mL	3.1117 mL
50 mM	0.0622 mL	0.3112 mL	0.6223 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Currais A, et al. Elevating acetyl-CoA levels reduces aspects of brain aging. Elife. 2019 Nov 19;8. pii: e47866.
Chiruta C, et al. Chemical modification of the multitarget neuroprotective compound fisetin. J Med Chem. 2012 Jan 12;55(1):378-89.
Prior M, et al. Back to the future with phenotypic screening. ACS Chem Neurosci. 2014 Jul 16;5(7):503-13.