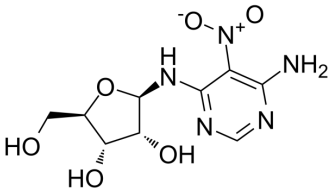
Clitocine

Cat. No.:	HY-118341
CAS No.:	105798-74-1
Molecular Formula:	$C_9H_{13}N_5O_6$
Molecular Weight:	287.23
Target:	Apoptosis; Bcl-2 Family
Pathway:	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

DMSO : 100 mg/mL (348.15 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.4815 mL	17.4077 mL	34.8153 mL
	5 mM	0.6963 mL	3.4815 mL	6.9631 mL
	10 mM	0.3482 mL	1.7408 mL	3.4815 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 (7.24 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (7.24 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (7.24 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Clitocine, an adenosine nucleoside analog isolated from mushroom, is a potent and efficacious readthrough agent. Clitocine acts as a suppressor of nonsense mutations and can induce the production of p53 protein in cells harboring p53 nonsense-mutated alleles. Clitocine can induce apoptosis in multidrug-resistant human cancer cells by targeting Mcl-1. Anticancer activity[1][2].

In Vitro

Clitocine incorporation into mRNA is required for premature stop codon readthrough activity, and the presence of clitocine at the third position of a premature stop codon is sufficient to promote robust readthrough[1].

	Clitocine (0-0.8 μM; 24 hours) enhances TRAIL-lethality in in LS411N and SW620 cells. Clitocine (0.2μM; 36 hours) significantly potentiates TRAIL-mediated apoptosis[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Citocine (0.3-3 mg/kg; s.c.; five times per week)-induced p53 inhibits CAOV-$33_{p53\text{-}UAA136}$ tumor growth in a xenograft model [1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	nu/nu mice (CAOV-3p53-UAA136 xenograft tumors)[1]
Dosage:	0.3, 3 mg/kg (or 20 mg/kg once per week)
Administration:	S.c.; five times per week
Result:	CAOV-$33_{p53\text{-}UAA136}$ tumor growth was inhibited.

REFERENCES

[1]. Friesen WJ, et al. The nucleoside analog clitocine is a potent and efficacious readthrough agent. RNA. 2017;23(4):567-577.

[2]. Sun JG, et al. Clitocine potentiates TRAIL-mediated apoptosis in human colon cancer cells by promoting Mcl-1 degradation. Apoptosis. 2016;21(10):1144-1157.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA