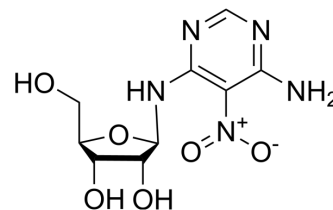


Clitocine

Cat. No.:	HY-118341		
CAS No.:	105798-74-1		
Molecular Formula:	C ₉ H ₁₃ N ₅ O 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)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	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 μ M; 24 hours) enhances TRAIL-lethality in in LS411N and SW620 cells. Clitocine (0.2 μ M; 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

Clitocine (0.3-3 mg/kg; s.c.; five times per week)-induced p53 inhibits CAOV-33_{p53}-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} -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.

Caution: Product has not been fully validated for medical applications. For research use only.

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