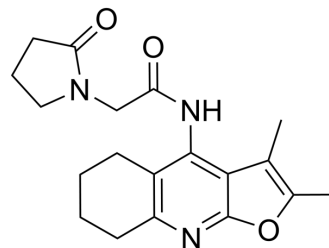


Coluracetam

Cat. No.:	HY-17553		
CAS No.:	135463-81-9		
Molecular Formula:	C ₁₉ H ₂₃ N ₃ O ₃		
Molecular Weight:	341.4		
Target:	iGluR		
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling		
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 : ≥ 20 mg/mL (58.58 mM)
 H₂O : 0.4 mg/mL (1.17 mM; Need ultrasonic and warming)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent	Mass	1 mg	5 mg	10 mg
	Concentration				
	1 mM		2.9291 mL	14.6456 mL	29.2912 mL
	5 mM		0.5858 mL	2.9291 mL	5.8582 mL
	10 mM		0.2929 mL	1.4646 mL	2.9291 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Coluracetam(MKC-231) is a new choline uptake enhancer.IC50 value:Target:in vitro: MKC-231 (10(-10)-10(-6) mol/l) significantly increased high affinity choline uptake (HACU) when it was incubated with the hippocampal synaptosomes of ethylcholine mustard aziridinium ion (AF64A) treated rats, but not of normal rats. MKC-231 did not affect the AChE activity, [3H]- quinuclidinyl benzilate binding, and [3H]-pirenzepine binding [1].in vivo: Oral administration of MKC-231 (1-10 mg/kg) significantly improved the learning deficits in the Morris' water maze of AF64A-treated rats, but it did not produce any significant side effects, like tremor, salivation or hypothermia, which were observed in rats treated with high doses of tacrine [1]. In acute behavioral experiments, MKC-231 and THA had no significant effect on AF64A-induced memory deficits at any doses tested (0.3, 1.0 and 3.0 mg/kg), whereas Dup 996, at a dose of 1.0 mg/kg, significantly improved memory deficits. In chronic experiments, MKC-231 improved memory deficit at all doses tested (0.3, 1.0, or 3.0 mg/kg p.o., once daily for 11 days) and Dup 996 did so only at a dose of 3.0 mg/kg, whereas THA did not improve memory deficit at any doses tested [2].

CUSTOMER VALIDATION

- Hum Mol Genet. 2023 Jan 5;ddac309.
- J Pain Res. 2018 Sep 21;11:1971-1982.
- University of Alberta . 2023.

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REFERENCES

[1]. Bessho T, et al. Effect of the novel high affinity choline uptake enhancer 2-(2-oxopyrrolidin-1-yl)-N-(2,3-dimethyl-5,6,7,8-tetrahydrofuro[2,3-b] quinolin-4-yl)acetamide on deficits of water maze learning in rats. *Arzneimittelforschung*. 1996 Apr;46(4):369-73.

[2]. Murai S, et al. MKC-231, a choline uptake enhancer, ameliorates working memory deficits and decreased hippocampal acetylcholine induced by ethylcholine aziridinium ion in mice. *J Neural Transm Gen Sect*. 1994;98(1):1-13.

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

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