7-Chlorokynurenic acid

Cat. No.: HY-100811

CAS No.: 18000-24-3

Molecular Formula: $C_{10}H_6ClNO_3$

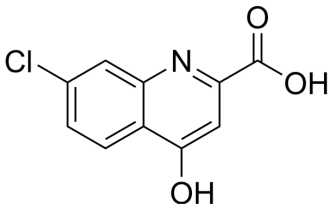
Molecular Weight: 223.61

Target: iGluR

Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling

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 : 14.29 mg/mL (63.91 mM; Need ultrasonic)

H_2O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	4.4721 mL	22.3604 mL	44.7207 mL
5 mM	0.8944 mL	4.4721 mL	8.9441 mL
10 mM	0.4472 mL	2.2360 mL	4.4721 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: ≥ 1.43 mg/mL (6.40 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

7-Chlorokynurenic acid (7-CKA) is a potent and selective antagonist of the glycine B coagonist site of the N-methyl-D-aspartate (NMDA) receptor (IC_{50}=0.56 μM). 7-Chlorokynurenic acid is also a potent inhibitor of the reuptake of glutamate into synaptic vesicles with a K_i of 0.59 μM. 7-Chlorokynurenic acid has potent antinociceptive actions after neuraxial delivery [1][2].

IC_{50} & Target

NMDA Receptor

In Vivo

Male Sprague-Dawley rats pretreated with 7-Chlorokynurenic acid (10 nM) shows a significant retardation of development of both the electroencephalographic and motor (17.7±2.9 daily stimulations) components of the seizure response[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Kemp JA, et al. 7-Chlorokynurenic acid is a selective antagonist at the glycine modulatory site of the N-methyl-D-aspartate receptor complex. Proc Natl Acad Sci U S A. 1988 Sep;85(17):6547-50.

[2]. Yaksh TL, et al. Characterization of the Effects of L-4-Chlorokynurenine on Nociception in Rodents. J Pain. 2017 Oct;18(10):1184-1196.

[3]. Croucher MJ, et al. 7-Chlorokynurenic acid, a strychnine-insensitive glycine receptor antagonist, inhibits limbic seizurekindling. Neurosci Lett. 1990 Oct 2;118(1):29-32.

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