

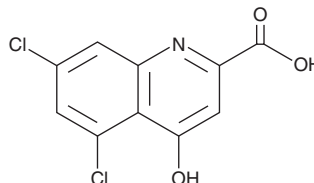
# PRODUCT INFORMATION



## 5,7-Dichlorokynurenic Acid

Item No. 25533

**CAS Registry No.:** 131123-76-7  
**Formal Name:** 5,7-dichloro-4-hydroxy-2-quinolinecarboxylic acid  
**Synonyms:** 5,7-DCKA, DCKA  
**MF:** C<sub>10</sub>H<sub>5</sub>Cl<sub>2</sub>NO<sub>3</sub>  
**FW:** 258.1  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 228, 256, 342 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Description

5,7-DCKA is a derivative of kynurenic acid (Item No. 16792) and an NMDA receptor antagonist ( $K_i = 40$  nM in a radioligand binding assay).<sup>1</sup> It selectively inhibits glycine- over kainate-induced NMDA currents at 15  $\mu$ M in *Xenopus* oocytes expressing rat NMDA receptors. 5,7-DCKA reduces NMDA-induced neurotoxicity in primary rat cortical neurons by 55 to 90% when used at concentrations ranging from 1 to 10  $\mu$ M. *In vivo*, 5,7-DCKA (0.97-97 nmol) reverses mechanical hyperalgesia in magnesium-deficient rats in a dose-dependent manner.<sup>2</sup> It blocks the positive ionotropic effect, hypertension, and increase in myocardial oxygen demand induced by electrical stimulation of the paraventricular nucleus (PVN) in anesthetized rabbits.<sup>3</sup> 5,7-DCKA also increases social interaction time in the social interaction test and time spent in the open arms of the elevated plus maze, indicating anxiolytic-like activity, as well as disinhibits conflict responding in the Cook and Davidson conditioned conflict paradigm.<sup>4</sup>

### References

1. McNamara, D.J., Smith, E.C.R., Calligaro, D.O., *et al.* 5,7-Dichlorokynurenic acid, a potent and selective competitive antagonist of the glycine site on NMDA receptors. *Neurosci. Lett.* **120(1)**, 17-20 (1990).
2. Begon, S., Pickering, G., Eschaliere, A., *et al.* Role of spinal NMDA receptors, protein kinase C and nitric oxide synthase in the hyperalgesia induced by magnesium deficiency in rats. *Br. J. Pharmacol.* **134(6)**, 1227-1236 (2001).
3. Monassier, L., Tibiriça, E., Roegel, J.-C., *et al.* Prevention by NMDA receptor antagonists of the centrally-evoked increases of cardiac inotropic responses in rabbits. *Br. J. Pharmacol.* **111(4)**, 1347-1354 (1994).
4. Corbett, R. and Dunn, R.W. Effects of 5,7 dichlorokynurenic acid on conflict, social interaction and plus maze behaviors. *Neuropharmacology* **32(5)**, 461-466 (1993).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 10/27/2022

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897

[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM