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- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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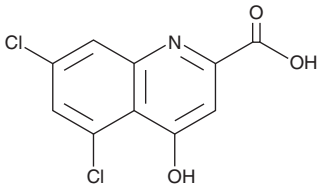
PRODUCT INFORMATION

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:	$C_{10}H_5Cl_2NO_3$
FW:	258.1
Purity:	≥98%
UV/Vis.:	λ_{max}: 228, 256, 342 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 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).[1] It selectively inhibits glycine- over kainate-induced NMDA currents at 15 µM 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 µM. *In vivo*, 5,7-DCKA (0.97-97 nmol) reverses mechanical hyperalgesia in magnesium-deficient rats in a dose-dependent manner.[2] 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.[3] 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.[4]

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., Eschalier, 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).

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