

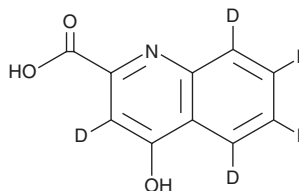
# PRODUCT INFORMATION



## Kynurenic Acid-d<sub>5</sub>

Item No. 36306

**CAS Registry No.:** 350820-13-2  
**Formal Name:** 4-hydroxy-2-quinoline-3,5,6,7,8-d<sub>5</sub>-carboxylic acid  
**MF:** C<sub>10</sub>H<sub>2</sub>D<sub>5</sub>NO<sub>3</sub>  
**FW:** 194.2  
**Chemical Purity:** ≥98% (Kynurenic Acid)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>5</sub>); ≤1% d<sub>0</sub>  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

Kynurenic acid-d<sub>5</sub> is intended for use as an internal standard for the quantification of kynurenic acid (Item No. 16792) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Kynurenic acid-d<sub>5</sub> is supplied as a solid. A stock solution may be made by dissolving the kynurenic acid-d<sub>5</sub> in the solvent of choice, which should be purged with an inert gas. Kynurenic acid-d<sub>5</sub> is slightly soluble in DMSO and dichloromethane.

### Description

Kynurenic acid is an active metabolite of tryptophan (Item No. 29600 | 31210).<sup>1</sup> It is formed from tryptophan via a kynurenine (Item No. 11305) intermediate by kynurenine aminotransferases (KATs). Kynurenic acid is an antagonist of the NMDA and AMPA receptors as well as α7 nicotinic acetylcholine receptors (nAChRs; EC<sub>50</sub>s = 235, 101, and 7 μM, respectively).<sup>1</sup> It is also an agonist of the aryl hydrocarbon receptor (AhR) and G protein-coupled receptor 35 (GPR35; EC<sub>50</sub>s = 1.4 and 39 μM, respectively). It prevents lesioned hemisphere weight loss in a neonatal rat model of cerebral hypoxic-ischemia induced by carotid artery ligation when administered at a dose of 300 mg/kg.<sup>2</sup> Kynurenic acid (1 and 5 mg/ml) is protective against rhabdomyosarcoma neurodegeneration in the eye in an *Htt93Q* transgenic *Drosophila* model of Huntington's disease.<sup>3</sup> Levels of kynurenic acid in cerebrospinal fluid are increased in patients with schizophrenia.<sup>4</sup>

### References

1. Turski, M.P., Turska, M., Paluszkiwicz, P., *et al.* Kynurenic acid in the digestive system-new facts, new challenges. *Int. J. Tryptophan Res.* **6**, 47-55 (2013).
2. Andiné, P., Lehmann, A., Ellrén, K., *et al.* The excitatory amino acid antagonist kynurenic acid administered after hypoxic-ischemia in neonatal rats offers neuroprotection. *Neurosci. Lett.* **90(1-2)**, 208-212 (1988).
3. Campesan, S., Green, E.W., Breda, C., *et al.* The kynurenine pathway modulates neurodegeneration in a *Drosophila* model of Huntington's disease. *Curr. Biol.* **21(11)**, 9611-966 (2011).
4. Nilsson, L.K., Linderholm, K.R., Engberg, G., *et al.* Elevated levels of kynurenic acid in the cerebrospinal fluid of male patients with schizophrenia. *Schizophr. Res.* **80(2-3)**, 315-322 (2005).

#### 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.

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