Quinolinic acid-d_3

Cat. No.: HY-100807S

CAS No.: 138946-42-6

Molecular Formula: $C_7H_2D_3NO_4$

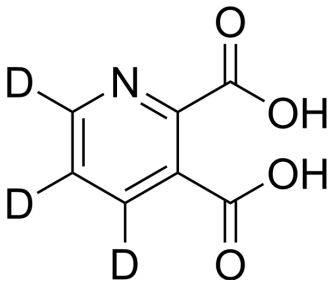
Molecular Weight: 170.14

Target: iGluR; Endogenous Metabolite

Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling; Metabolic Enzyme/Protease

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 : 33.33 mg/mL (195.90 mM; Need ultrasonic and warming)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	5.8775 mL	29.3876 mL	58.7751 mL
	5 mM	1.1755 mL	5.8775 mL	11.7550 mL
	10 mM	0.5878 mL	2.9388 mL	5.8775 mL

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

BIOLOGICAL ACTIVITY

Description

Quinolinic acid-d_3 is the deuterium labeled Quinolinic acid. Quinolinic acid is an endogenous N-methyl-D-aspartate (NMDA) receptor agonist synthesized from L-tryptophan via the kynurenine pathway and thereby has the potential of mediating N-methyl-D-aspartate neuronal damage and dysfunction[1][2].

IC_{50} & Target

NMDA Receptor

In Vitro

Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs[1].

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

REFERENCES

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.

[2]. Jang S, et al. Neuroprotective effects of (-)-epigallocatechin-3-gallate against quinolinic acid-induced excitotoxicity via PI3K pathway and NO inhibition. Brain Res. 2010 Feb 8;1313:25-33.

[3]. Heyes MP, et al. Quinolinic acid and kynurenine pathway metabolism in inflammatory and non-inflammatory neurological disease. Brain. 1992 Oct;115 (Pt 5):1249-73.

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