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Zuschläge

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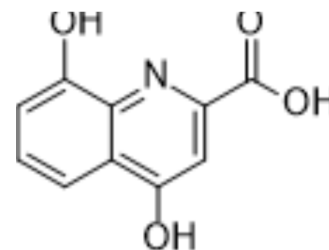
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Xanthurenic acid

Cat. No.:	HY-W014666		
CAS No.:	59-00-7		
Molecular Formula:	C ₁₀ H ₇ NO ₄		
Molecular Weight:	205.17		
Target:	Endogenous Metabolite; mGluR; Apoptosis		
Pathway:	Metabolic Enzyme/Protease; GPCR/G Protein; Neuronal Signaling; Apoptosis		
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 : 8.93 mg/mL (43.52 mM; ultrasonic and warming and heat to 60°C)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	4.8740 mL	24.3700 mL	48.7401 mL
		5 mM	0.9748 mL	4.8740 mL	9.7480 mL
10 mM		0.4874 mL	2.4370 mL	4.8740 mL	
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	1. Add each solvent one by one: 50% PEG300 >> 50% saline Solubility: 20 mg/mL (97.48 mM); Suspended solution; Need ultrasonic				

BIOLOGICAL ACTIVITY

Description	Xanthurenic acid is a putative endogenous Group II metabotropic glutamate receptor agonist, on sensory transmission in the thalamus.		
IC₅₀ & Target	Human Endogenous Metabolite	mGluR2	mGluR3
In Vivo	Xanthurenic acid is a putative endogenous Group II metabotropic glutamate receptor agonist, on sensory transmission in the thalamus. The inhibition of Xanthurenic acid (XA) on sensory can be found when applied iontophoretically and i.v., is similar to that of other Group II mGlu receptor agonists in reducing inhibition evoked in the VB from the thalamic reticular nucleus upon physiological sensory stimulation. Furthermore, it is postulated that Xanthurenic acid may be the first potential endogenous allosteric agonist for the mGlu receptors. As the Group II receptors and kynurenine metabolism pathway have both been heavily implicated in the pathophysiology of schizophrenia, Xanthurenic acid could play a pivotal		

role in antipsychotic research as this potential endocoid represents both a convergence within these two biological parameters and a novel class of Group II mGlu receptor ligand^[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Animal Administration ^[1]

Rats^[1] Male Wistar rats (265-495 g, n=27) are used throughout the study. Throughout the experiments, electrocardiogram and electroencephalogram (EEG) are monitored. Ionophoretic drug applications are performed using the outer barrels, with one of the outer barrels filled with 1 M NaCl for current balancing on each occasion. The remaining outer barrels contain one of the following substances as required: NMDA (50 mM, pH8.0 in 150 mM NaCl), LY354740 (5 mM, pH8.0 in 75 mM NaCl), Xanthurenic Acid (5 mM, pH8.0 in 75 mM NaCl), LY341495 (5 mM, pH8.5 in 75mM NaCl), as Nat salts, ejected as anions, and LY487379 (1 mM, pH6.0, in 1% dimethyl sulfoxide, 75mM NaCl), ejected as cations. All compounds are prevented from diffusing out of the pipette by using a retaining current (15-25 nA) of opposite polarity to that of the ejection current^[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Pathog Dis. 2022 Oct 31;ftac043.

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REFERENCES

[1]. Copeland CS, et al. Actions of Xanthurenic acid, a putative endogenous Group II metabotropic glutamate receptor agonist, on sensory transmission in the thalamus. *Neuropharmacology*. 2013 Mar;66:133-42.

Caution: Product has not been fully validated for medical applications. For research use only.

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