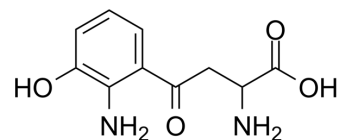


3-Hydroxykynurenine

Cat. No.:	HY-113294
CAS No.:	484-78-6
Molecular Formula:	C ₁₀ H ₁₂ N ₂ O ₄
Molecular Weight:	224.21
Target:	Endogenous Metabolite; Apoptosis
Pathway:	Metabolic Enzyme/Protease; Apoptosis
Storage:	4°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

1M HCl : 33.33 mg/mL (148.66 mM; ultrasonic and adjust pH to 1 with HCl)

Concentration	Mass		
	1 mg	5 mg	10 mg
1 mM	4.4601 mL	22.3005 mL	44.6010 mL
5 mM	0.8920 mL	4.4601 mL	8.9202 mL
10 mM	0.4460 mL	2.2301 mL	4.4601 mL

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

BIOLOGICAL ACTIVITY

Description

3-Hydroxykynurenine, a metabolite of tryptophan, is a potential endogenous neurotoxin whose increased levels have been described in several neurodegenerative disorders. 3-Hydroxykynurenine induces neuronal apoptosis^[1].

IC₅₀ & Target

Human Endogenous Metabolite

In Vitro

3-Hydroxykynurenine-induced neuronal cell death shows several features of apoptosis^[1].
 3-Hydroxykynurenine is a metabolic intermediate of the kynurenine pathway, the major metabolic pathway of tryptophan (Trp)^[1].
 3-Hydroxykynurenine acts as an endogenous neurotoxin in the brain under pathological conditions^[1].
 3-Hydroxykynurenine (20-100 μM) significantly inhibits CD4⁺T-cell proliferation in a dose-dependent manner with IC₅₀ of approximately 70 μM^[2].
 3-Hydroxykynurenine (20-100 μM) induces significant CD4⁺T-cell-mediated cell death in a dose-dependent manner^[2].
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.
 Cell Proliferation Assay^[2]

	Cell Line:	CD3/CD28 bead-stimulated CD4 ⁺ T cells
	Concentration:	0, 20, 40, 60, 80, and 100 μM
	Incubation Time:	72 hours
	Result:	Significantly inhibited CD4 ⁺ T-cell proliferation in a dose-dependent manner with an IC ₅₀ of approximately 70 μM.
In Vivo	3-Hydroxykynurenine administration (560 mg/kg IP on a daily basis on days 1 to 7, days 7 to 14, or days 1 to 14) results in significant prolongation of graft survival whether administered between days 1 to 7, days 7 to 14, or days 1 to 14 ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
	Animal Model:	BALB/c (H2d) mice ^[2]
	Dosage:	560 mg/kg
	Administration:	IP injection
	Result:	There was significant prolongation of graft survival in all treatment groups in comparison to the controls.

REFERENCES

[1]. S Okuda, et al. 3-Hydroxykynurenine, an endogenous oxidative stress generator, causes neuronal cell death with apoptotic features and region selectivity. *J Neurochem.* 1998 Jan;70(1):299-307.

[2]. Sarah S Zaher, et al. 3-hydroxykynurenine suppresses CD4⁺ T-cell proliferation, induces T-regulatory-cell development, and prolongs corneal allograft survival. *Invest Ophthalmol Vis Sci.* 2011 Apr 22;52(5):2640-8.

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

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