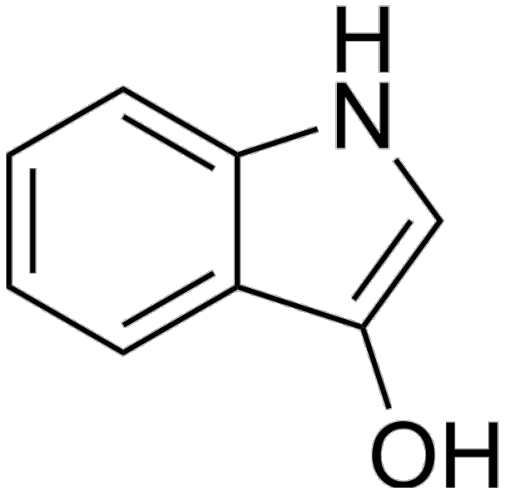
Product Data Sheet

Product Name: 3-Hydroxyindole
Cat. No.: GC81430

Chemical Properties

Cas. No.	480-93-3		
Formula	C_8H_7NO	M.Wt	133.15
Solubility	DMSO: 2 mg/mL (15.02 mM; Need ultrasonic)	Storage	Store at -20°C, protect from light, stored under nitrogen
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		

Structure



Background

3-Hydroxyindole is a hydroxyindole compound. 3-Hydroxyindole can be isolated from the fruits of Aristotelia chilensis. 3-Hydroxyindole inhibits Ferroptosis and scavenges DPPH free radicals. 3-Hydroxyindole protects against β-amyloid -induced toxicity. 3-Hydroxyindole exhibits antioxidant activity. 3-Hydroxyindole can be used in research related to neurodegenerative diseases [1] [2] [3].

Caution: Product has not been fully validated for medical applications. For research use only.
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In Vitro, 3-Hydroxyindole potently scavenges DPPH radicals in a cell-free system with an IC_{50} of 0.87 ppm, showing greater activity than α-tocopherol[1]. 3-Hydroxyindole potently scavenges crocin radicals in a cell-free system with an IC_{50} of 0.67 ppm[1]. 3-Hydroxyindole potently inhibits lipid peroxidation in brain homogenate ex vivo with an IC_{50} of 1.29 ppm[1]. 3-Hydroxyindole (20 μM; 22-24 h) potently inhibits ferroptosis induced by Erastin,RSL3, and FINO2 in HT-22 mouse hippocampal neurons, with EC50 values of 7.9 μM, 3.5 μM, and 1.6 μM respectively[2]. 3-Hydroxyindole (25 μM; 24 h) does not protect HT-22 mouse hippocampal neurons from non-ferroptotic toxicity induced by Rotenone, indicating its protective effects are specific to ferroptosis[2]. 3-Hydroxyindole (24 h) potently inhibits ferroptosis induced by RSL3 and FINO2 in N27 rat dopaminergic neurons, with EC50 values of 1.5 μM and 2.2 μM respectively[2].

References:

[1]. Céspedes CL, et al. Antioxidant activity of an unusual 3-hydroxyindole derivative isolated from fruits of Aristotelia chilensis (Molina) Stuntz. Zeitschrift fur Naturforschung. C, Journal of biosciences. 2009;64(9-10):759-62.
[2]. Jakaria M, et al. The role of hydroxyindoles in protecting neuronal cultures from ferroptosis. Cell death discovery. 2025 Jul 16;11(1):329.
[3]. Jakaria M, et al. Inhibition of Ferroptotic Toxicity by 4-Hydroxyindole. Chemical research in toxicology. 2025 Nov 17;38(11):2002-2009.

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