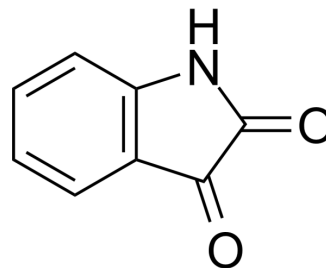


Isatin

Cat. No.:	HY-Y0265		
CAS No.:	91-56-5		
Molecular Formula:	C ₈ H ₅ NO ₂		
Molecular Weight:	147.13		
Target:	Monoamine Oxidase; Apoptosis		
Pathway:	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 : 100 mg/mL (679.67 mM; Need ultrasonic)			
	H ₂ O : < 0.1 mg/mL (insoluble)			
		Solvent Concentration	Mass	
	Preparing Stock Solutions		1 mg	5 mg
	1 mM	6.7967 mL	33.9836 mL	67.9671 mL
	5 mM	1.3593 mL	6.7967 mL	13.5934 mL
	10 mM	0.6797 mL	3.3984 mL	6.7967 mL
Please refer to the solubility information to select the appropriate solvent.				
In Vivo	1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.75 mg/mL (18.69 mM); Clear solution			

BIOLOGICAL ACTIVITY

Description	Isatin (Indoline-2,3-dione) is a potent inhibitor of monoamine oxidase (MAO) with an IC ₅₀ of 3 μM. Also binds to central benzodiazepine receptors (IC ₅₀ against clonazepam, 123 μM) ^[1] . Also acts as an antagonist of both atrial natriuretic peptide stimulated and nitric oxide-stimulated guanylate cyclase activity ^[2] . Shows effect on the serotonergic system ^[3] .
IC ₅₀ & Target	IC ₅₀ : 3 μM (MAO B) ^[1]
In Vitro	In dopaminergic SH-SY5Y cells isatin (1-400 μM) induces cell death in dose- and time dependent manner. This death occurred as a continuum of survival, apoptosis and necrosis ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	A single dose of isatin (80 mg/kg) has a rapid effect on the serotonergic system in the hypothalamus. Isatin significantly

increases 5-HT concentrations in the hypothalamus and cortex but did not significantly alter 5-HIAA concentrations^[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Glover V, et al. Isatin: Identity with the Purified Endogenous Monoamine Oxidase Inhibitor Tribulin. *Journal of Neurochemistry*, 51(2), 656–659.

[2]. Igosheva N, et al. Isatin, an endogenous monoamine oxidase inhibitor, triggers a dose- and time-dependent switch from apoptosis to necrosis in human neuroblastoma cells. *Neurochem Int.* 2005 Aug;47(3):216-24.

[3]. McIntyre IM, et al. Serotonergic effects of isatin: an endogenous MAO inhibitor related to tribulin. *J Neural Transm Gen Sect.* 1990;79(1-2):35-40.

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

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