PRODUCT INFORMATION



Indole-3-propionic Acid

Item No. 28821

CAS Registry No.:	830-96-6	
Formal Name:	1H-indole-3-propanoic acid	H
Synonyms:	3-Indolepropionic Acid, NSC 3252, NSC 47831	N
MF:	$C_{11}H_{11}NO_2$	
FW:	189.2	\sim
Purity:	≥98%	
UV/Vis.:	λ _{max} : 223, 284 nm	
Supplied as:	A crystalline solid	ОН
Storage:	-20°C	0, 011
Stability:	≥4 years	
Item origin:	Synthetic	

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Indole-3-propionic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the indole-3-propionic acid in the solvent of choice, which should be purged with an inert gas. Indole-3-propionic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of indole-3-propionic acid in these solvents is approximately 30 mg/ml.

Description

Indole-3-propionic acid is a bacterial metabolite that has antioxidant and neuroprotective activities.¹⁻³ It scavenges ABTS (Item No. 27317) radicals in a cell-free assay when used at concentrations ranging from 50 to 150 μM and decreases hydrogen peroxide-induced malondialdehyde (MDA) levels in rat striatal membranes (IC₅₀ = 180 μ M).² Indole-3-propionic acid also decreases increases in MDA levels induced by amyloid β (1-42) (Item No. 20574) in PC12 cells.⁴ It decreases ischemia-induced increases in cell death of pyramidal neurons and levels of 4-hydroxy nonenal (HNE; Item No. 32100) and glial fibrillary acidic protein (GFAP) in the hippocampal CA1 region in gerbils when administered at a dose of 10 mg/kg per day.³

References

- 1. Wikoff, W.R., Anfora, A.T., Liu, J., et al. Metabolomics analysis reveals large effects of gut microflora on mammalian blood metabolites. Proc. Natl. Acad. Sci. U.S.A. 106(10), 3698-3703 (2009).
- 2. Poeggeler, B., Pappolla, M.A., Hardeland, R., et al. Indole-3-propionate: A potent hydroxyl radical scavenger in rat brain. Brain Res. 815(2), 382-388 (1999).
- 3. Hwang, I.K., Yoo, K.-Y., Li, H., et al. Indole-3-propionic acid attenuates neuronal damage and oxidative stress in the ischemic hippocampus. J. Neurosci. Res. 87(9), 2126-2137 (2009).
- 4. Chyan, Y.-J., Poeggeler, B., Omar, R.A., et al. Potent neuroprotective properties against the Alzheimer β-amyloid by an endogenous melatonin-related indole structure, indole-3-propionic acid. J. Biol. Chem. 274(31), 21937-21942 (1999).

WARNING THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFFTY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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