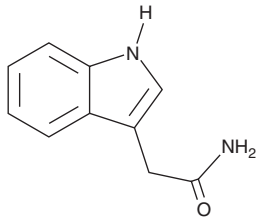
PRODUCT INFORMATION

Indole-3-acetamide

Item No. 34374

CAS Registry No.:	879-37-8
Formal Name:	1H-indole-3-acetamide
Synonyms:	IAM, NSC 1969
MF:	$C_{10}H_{10}N_2O$
FW:	174.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 220 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

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

Indole-3-acetamide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, indole-3-acetamide should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Indole-3-acetamide has a solubility of approximately 0.1 mg/ml in a 1:9 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Indole-3-acetamide is an endogenous metabolite of tryptophan and intermediate in the biosynthesis of the major plant, fungal, and bacterial auxin hormone, indole-3-acetic acid (IAA; Item No. 16954), in phytopathogenic bacteria.[1] It is formed directly from tryptophan in plants by tryptophan monooxygenase or, indirectly, through indole-3-acetonitrile or indole-3-acetaldoxime intermediates. Exogenous application of indole-3-acetamide (20 µM) increases the expression of *ami1*, the gene encoding amidase 1, the enzyme that catalyzes the synthesis of indole-3-acetic acid from indole-3-acetamide, in *Arabidopsis*.[2] It reduces relative primary root elongation in *Arabidopsis* mutants that have increased amidase activity and lower indole-3-acetamide levels, but not in wild-type *Arabidopsis*, when used at concentrations of 1 and 10 µM. Indole-3-acetamide inhibits mouse and rat liver, as well as *P. fluorescens* and tryptophan 2,3-dioxygenase but not rabbit intestine or mouse epididymis indoleamine 2,3-dioxygenase.[3]

References

1. Duca, D., Lorv, J., Patten, C.L., *et al.* Indole-3-acetic acid in plant-microbe interactions. *Anton. Van. Lee. J. M. S.* **106(1)**, 85-125 (2014).
2. Pérez-Alonso, M.-M., Ortiz-García, P., Moya-Cuevas, J., *et al.* Endogenous indole-3-acetamide levels contribute to the crosstalk between auxin and abscisic acid, and trigger plant stress responses in Arabidopsis. J. *Exp. Bot.* **72(2)**, 459-475 (2021).
3. Eguchi, N., Watanabe, Y., Kawanishi, K., *et al.* Inhibition of indoleamine 2,3-dioxygenase and tryptophan 2,3-dioxygenase by β-carboline and indole derivatives. *Arch. Biochem. Biophys.* **232(2)**, 602-609 (1984).

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