

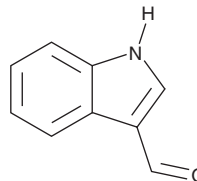
PRODUCT INFORMATION



Indole-3-carboxaldehyde

Item No. 31328

CAS Registry No.: 487-89-8
Formal Name: 1H-indole-3-carboxaldehyde
Synonyms: Indole-3-formaldehyde, β -Indolylaldehyde, NSC 10118
MF: C_9H_7NO
FW: 145.2
Purity: $\geq 95\%$
UV/Vis.: λ_{max} : 243, 260, 297 nm
Supplied as: A crystalline solid
Storage: $-20^{\circ}C$
Stability: ≥ 2 years



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

Laboratory Procedures

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

Indole-3-carboxaldehyde is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, indole-3-carboxaldehyde should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Indole-3-carboxaldehyde has a solubility of approximately 0.5 mg/ml in a 1:1 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-carboxaldehyde is an active metabolite of tryptophan and a synthetic intermediate.¹⁻³ It is produced by lactobacilli in the gut microbiota via the indole pyruvate pathway, which is catalyzed by aromatic amino acid aminotransferase (ArAT).¹ Indole-3-carboxaldehyde (18 mg/kg) increases colonic production of IL-22 and restores colonization resistance to *C. albicans* infection in a wild-type, but not aryl hydrocarbon receptor knockout (*Ahr*^{-/-}), mouse model of mucosal candidiasis. It also reduces intestinal mucosal damage in a mouse model of colitis induced by dextran sulfate (DSS; Item No. 23250). Indole-3-carboxaldehyde has been used as a synthetic intermediate in the synthesis of Schiff bases and ergot alkaloids.^{2,3}

References

1. Zelante, T., Iannitti, R.G., Cunha, C., et al. Tryptophan catabolites from microbiota engage aryl hydrocarbon receptor and balance mucosal reactivity via interleukin-22. *Immunity* **39**(2), 372-385 (2013).
2. Sinha, D., Tiwari, A.K., Singh, S., et al. Synthesis, characterization and biological activity of Schiff base analogues of indole-3-carboxaldehyde. *Eur. J. Med. Chem.* **43**(1), 160-165 (2008).
3. Somei, M. Studies directed toward the ultimate synthesis for ergot alkaloids. *Yakugaku Zasshi* **108**(5), 361-380 (1988).

WARNING

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

SAFETY 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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