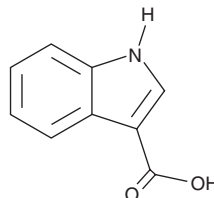


# PRODUCT INFORMATION

## Indole-3-carboxylic Acid

Item No. 31166

**CAS Registry No.:** 771-50-6  
**Formal Name:** 1H-indole-3-carboxylic acid  
**Synonyms:** I3CA, ICOOH, Indole- $\beta$ -carboxylic Acid,  $\beta$ -Indolylcarboxylic Acid  
**MF:**  $C_9H_7NO_2$   
**FW:** 161.2  
**Purity:**  $\geq 98\%$   
**UV/Vis.:**  $\lambda_{max}$ : 213, 281 nm  
**Supplied as:** A crystalline solid  
**Storage:**  $-20^\circ\text{C}$   
**Stability:**  $\geq 4$  years  
**Item Origin:** Synthetic



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

### Laboratory Procedures

Indole-3-carboxylic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the indole-3-carboxylic acid in the solvent of choice, which should be purged with an inert gas. Indole-3-carboxylic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of indole-3-carboxylic acid in ethanol is approximately 1 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Indole-3-carboxylic acid is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, indole-3-carboxylic acid should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Indole-3-carboxylic acid has a solubility of approximately 0.11 mg/ml in a 1:8 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-carboxylic acid is a plant metabolite derived from tryptophan that has been found in *Arabidopsis* and has diverse biological activities.<sup>1-4</sup> It induces resistance in *Arabidopsis* against the plant necrotrophic fungus *P. cucumerina* when applied as a soil-drenching solution at a concentration of 150  $\mu\text{M}$  prior to infection.<sup>2</sup> Indole-3-carboxylic acid is cytotoxic to A549 human lung and MCF-7 human breast cancer cells ( $\text{EC}_{50}\text{s} = 4.6$  and  $12.9 \mu\text{g/ml}$ , respectively) and inhibits HIV replication in infected H9 lymphocytes ( $\text{IC}_{50} = 16.4 \mu\text{g/ml}$ ).<sup>3</sup> Indole-3-carboxylic acid has also been used as a precursor in the synthesis of substituted thiadiazoles with anticancer activity.<sup>4</sup>

### References

1. Iven, T., König, S., Singh, S., et al. *Mol. Plant* **5**(6), 1389-1402 (2012).
2. Gamir, J., Pastor, V., Sánchez-Bel, P., et al. *Plant J.* **96**(3), 518-531 (2018).
3. Wu, P.-L., Lin, F.-W., Wu, T.-S., et al. *Chem. Pharm. Bull. (Tokyo)* **52**(3), 345-349 (2004).
4. Kumar, D., Kumar, N.M., Chang, K.-A., et al. *Eur. J. Med. Chem.* **45**(10), 4664-4668 (2010).

#### 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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