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# Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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See the following pages for more information!

## Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

## Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand


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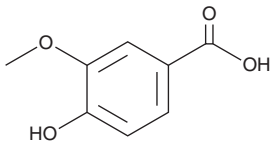
# PRODUCT INFORMATION

## Vanillic Acid

*Item No. 39643*

| | |
|---|---|
| **CAS Registry No.:** | 121-34-6 |
| **Formal Name:** | 4-hydroxy-3-methoxy-benzoic acid |
| **Synonyms:** | NSC 3987, NSC 674322 |
| **MF:** | $C_8H_8O_4$ |
| **FW:** | 168.1 |
| **Purity:** | ≥98% |
| **Supplied as:** | A solid |
| **Storage:** | -20°C |
| **Stability:** | ≥4 years |
| **Item Origin:** | Synthetic |




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

### Laboratory Procedures

Vanillic acid is supplied as a solid. A stock solution may be made by dissolving the vanillic acid in the solvent of choice, which should be purged with an inert gas. Vanillic acid is soluble in methanol.

### Description

Vanillic acid is a phenol that has been found in *A. sinensis* and has diverse biological activities.[1-4] It inhibits biofilm formation by carbapenem-resistant *E. hormaechei* (CREH; MIC = 0.8 mg/ml).[1] Vanillic acid (12 µg/ml) inhibits cell death induced by the antitumor agent doxorubicin (Item No. 15007) in H9c2 rat cardiomyocytes.[2] *In vivo*, vanillic acid (10, 20, and 40 mg/kg per day) reduces cardiac levels of lactate dehydrogenase, cardiac troponin-1, and malondialdehyde (MDA) in a rat model of doxorubicin-induced cardiotoxicity. It reduces hyperglycemia and renal levels of thiobarbituric acid reactive substances (TBARS), TNF-α, and NF-κB, as well as attenuates impaired renal function in a rat model of diabetes induced by streptozotocin (STZ; Item No. 13104) and nicotinamide (Item No. 11127).[3] Vanillic acid (25 and 50 mg/kg) also reduces bronchoalveolar lavage fluid (BALF) inflammatory cell infiltration and airway inflammation in a rat model of ovalbumin-induced asthma.[4]

### References


1. Qian, W., Yang, M., Wang, T., *et al.* Antibacterial mechanism of vanillic acid on physiological, morphological, and biofilm properties of carbapenem-resistant *Enterobacter hormaechei*. *J. Food Prot.* **83(4)**, 576-583 (2020).
2. Yalameha, B., Nejabati, H.R., and Nouri, M. Cardioprotective potential of vanillic acid. *Clin. Exp. Pharmacol. Physiol.* **50(3)**, 193-204 (2023).
3. Singh, B., Kumar, A., Singh, H., *et al.* Protective effect of vanillic acid against diabetes and diabetic nephropathy by attenuating oxidative stress and upregulation of NF-κB, TNF-α and COX-2 proteins in rats. *Phytother. Res.* **36(3)**, 1338-1352 (2022).
4. Bai, F., Fang, L., Hu, H., *et al.* Vanillic acid mitigates the ovalbumin (OVA)-induced asthma in rat model through prevention of airway inflammation. *Biosci. Biotechnol. Biochem.* **83(3)**, 531-537 (2019).



**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.

**WARRANTY AND LIMITATION OF REMEDY**
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