

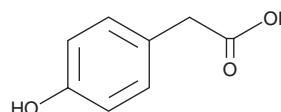
PRODUCT INFORMATION



4-Hydroxyphenylacetic Acid

Item No. 26613

CAS Registry No.: 156-38-7
Formal Name: 4-hydroxy-benzeneacetic acid
Synonyms: 4-HPAA, *p*-HPAA, *para*-HPAA *p*-Hydroxyphenylacetic Acid, *para*-Hydroxyphenylacetic Acid, NSC 25066, NSC 27460
MF: C₈H₈O₃
FW: 152.1
Purity: ≥98%
Supplied as: A crystalline 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

4-Hydroxyphenylacetic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the 4-hydroxyphenylacetic acid in the solvent of choice, which should be purged with an inert gas. 4-Hydroxyphenylacetic acid is soluble in the organic solvent dimethyl formamide at a concentration of approximately 1 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 4-hydroxyphenylacetic acid can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 4-hydroxyphenylacetic acid in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

4-Hydroxyphenylacetic acid is a phenolic acid with anti-inflammatory and anti-steatotic activities.^{1,2} It is formed *via* microbial metabolism of aromatic amino acids and polyphenolic compounds, including flavonoid glycosides, by gut microbiota.³⁻⁵ 4-Hydroxyphenylacetic acid (100 mg/kg) inhibits seawater instillation-induced increases in TNF- α , IL-1 β , and IL-6 levels in lung tissue and white blood cell numbers in bronchoalveolar lavage fluid (BALF) and prevents lung edema in a rat model of acute lung injury.¹ It reverses hepatic steatosis in a mouse model of high-fat diet-induced obesity when administered *via* a subcutaneous implant at a dose of 350 μ g/day for two weeks.² Levels of 4-hydroxyphenylacetic acid are increased and decreased in serum and urine, respectively, in rats fed a high-fat diet.³ Serum levels of 4-hydroxyphenylacetic acid are increased in patients with stage III pancreatic cancer.⁶

References

1. Liu, Z., Xi, R., Zhang, Z., *et al.* *Int. J. Mol. Sci.* **15**(7), 12861-12884 (2014).
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3. Zeng, Y., Lin, Y., Li, L., *et al.* *J. Chromatogr. B. Analyt. Technol. Biomed. Life Sci.* **1110-1111**, 133-143 (2019).
4. Kim, D.-H., Jung, E.-A., Sohng, I.-S., *et al.* *Arch. Pharm. Res.* **21**(1), 17-23 (1998).
5. Chen, H. and Sang, S. *J. Funct. Foods* **7**, 26-42 (2014).
6. Nishiumi, S., Shinohara, M., Ikeda, A., *et al.* *Metabolomics* **6**(4), 518-528 (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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