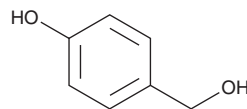


PRODUCT INFORMATION

4-Hydroxybenzyl Alcohol

Item No. 31209

CAS Registry No.: 623-05-2
Formal Name: 4-hydroxy-benzenemethanol
Synonyms: NSC 227926, *p*-Hydroxybenzyl Alcohol
MF: C₇H₈O₂
FW: 124.1
Purity: ≥98%
UV/Vis.: λ_{max}: 226 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years
Item Origin: Synthetic



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

Laboratory Procedures

4-Hydroxybenzyl alcohol is supplied as a crystalline solid. A stock solution may be made by dissolving the 4-hydroxybenzyl alcohol in the solvent of choice, which should be purged with an inert gas. 4-Hydroxybenzyl alcohol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 4-hydroxybenzyl alcohol in these solvents is approximately 15 mg/ml in ethanol and 30 mg/ml in DMSO and DMF.

4-Hydroxybenzyl alcohol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 4-hydroxybenzyl alcohol should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. 4-hydroxybenzyl alcohol has a solubility of approximately 0.09 mg/ml in a 1:10 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

4-Hydroxybenzyl alcohol is a phenol and an aglycone form of gastrodin (Item No. 28828) that has been found in *Gastrodia* and has diverse biological activities.¹⁻⁴ It inhibits LPS-induced production of nitric oxide (NO) and reactive oxygen species (ROS) and decreases inducible nitric oxide synthase (iNOS), but not COX-2, levels in RAW 264.7 cells when used at concentrations of 0.5 and 1 mM.² 4-Hydroxybenzyl alcohol (1.5 and 4.5 mg/animal) reduces exudate volume and leukocyte infiltration in a rat model of carrageenan-induced air pouch inflammation, and inhibits acetic acid-induced writhing in mice when administered at doses of 50 and 100 mg/kg. It reduces infarct volume and the number of TUNEL-positive neurons in the ipsilateral cortex in a rat model of focal cerebral ischemia induced by transient middle cerebral artery occlusion (MCAO) when administered at a dose of 50 mg/kg.⁴ 4-Hydroxybenzyl alcohol (50 and 100 mg/kg) increases the number of entries into, and the percentage of time spent in, the open arms of the elevated plus maze in mice, indicating anxiolytic-like activity.³

References

1. Hsieh, M.-T., Wu, C.-R., and Chen, C.-F. Gastrodin and *p*-hydroxybenzyl alcohol facilitate memory consolidation and retrieval, but not acquisition, on the passive avoidance task in rats. *J. Ethnopharmacol.* **56**(1), 45-54 (1997).
2. Lim, E.-J., Kang, H.-J., Jung, H.-J., et al. Anti-angiogenic, anti-inflammatory and antinociceptive activity of 4-hydroxybenzyl alcohol. *J. Pharm. Pharmacol.* **59**(9), 1235-1240 (2007).
3. Jung, J.W., Yoon, B.H., Oh, H.R., et al. Anxiolytic-like effects of *Gastrodia elata* and its phenolic constituents in mice. *Biol. Pharm. Bull.* **29**(2), 261-265 (2006).
4. Yu, S.-S., Zhao, J., Zheng, W.-P., et al. Neuroprotective effect of 4-hydroxybenzyl alcohol against transient focal cerebral ischemia via anti-apoptosis in rats. *Brain Res.* **1308**, 167-175 (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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