

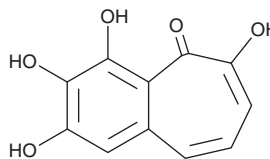
PRODUCT INFORMATION



Purpurogallin

Item No. 29689

CAS Registry No.: 569-77-7
Formal Name: 2,3,4,6-tetrahydroxy-5H-benzocyclohepten-5-one
Synonyms: NCI 35676, NSC 35676, NSC 646653
MF: C₁₁H₈O₅
FW: 220.2
Purity: ≥95%
UV/Vis.: λ_{max}: 243, 280, 304 nm
Supplied as: A crystalline 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

Purpurogallin is supplied as a crystalline solid. A stock solution may be made by dissolving the purpurogallin in the solvent of choice, which should be purged with an inert gas. Purpurogallin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of purpurogallin in ethanol is approximately 1 mg/ml and approximately 25 mg/ml in DMSO and DMF.

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 purpurogallin can be prepared by directly dissolving the crystalline solid in aqueous buffers. Purpurogallin is slightly soluble in PBS, pH 7.2. We do not recommend storing the aqueous solution for more than one day.

Description

Purpurogallin is a phenol that has been found in *D. divisa* and a derivative of pyrogallol (Item No. 20347) that has diverse biological activities, including antimicrobial, antioxidant, and enzyme inhibitory properties.¹⁻⁶ It is active against the Gram-positive bacteria *S. aureus*, methicillin-resistant *S. aureus* (MRSA), *S. epidermidis*, and *B. subtilis* (MICs = 11-110 µg/ml), the Gram-negative bacteria *S. marcescens*, *P. vulgaris*, *K. pneumoniae*, *E. coli*, *S. typhi*, and *E. cloacae* (MIC = 110 µg/ml for all), as well as *P. falciparum* strain FCB1 clone NC-1 (IC₅₀ = 55 µM).^{1,3} Purpurogallin (2, 5, and 10 µM) scavenges 2,2-diphenyl-1-picrylhydrazyl (DPPH; Item No. 14805) radicals in a cell-free assay and reduces hydrogen peroxide- and radiation-induced production of reactive oxygen species (ROS) in HaCaT keratinocytes.² It inhibits the activity of EGFR, glutathione-S-transferase (GST), prolyl endopeptidase, and glyoxalase I (IC₅₀s = 27.5, 8, 16, and 50 µM, respectively), as well as catechol O-methyltransferase (COMT; K_i = 0.074 µM), in cell-free assays.^{1,3-6}

References

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2. Zhen, A.X., Piao, M.J., Hyun, Y.J., et al. *Biomol. Ther. (Seoul)* **27(4)**, 395-403 (2019).
3. Barnard, J.F., Vander Jagt, D.L., and Honek, J.F. *Biochim. Biophys. Acta* **1208(1)**, 127-135 (1994).
4. Abou-Karam, M. and Shier, W.T. *Phytother. Res.* **13(4)**, 337-340 (1999).
5. Das, M., Bickers, D.R., and Mukhtar, H. *Biochem. Biophys. Res. Commun.* **120(2)**, 427-433 (1984).
6. Vesper, J. *J. Bacteriol.* **169(8)**, 3696-3700 (1987).

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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