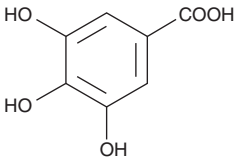
PRODUCT INFORMATION

Gallic Acid

Item No. 11846

CAS Registry No.:	149-91-7
Formal Name:	3,4,5-trihydroxy-benzoic acid
Synonyms:	NSC 20103, NSC 674319, 3,4,5-Trihydroxybenzoic Acid
MF:	$C_7H_6O_5$
FW:	170.1
Purity:	≥98%
UV/Vis.:	λ_{max}: 218, 273 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/*Terminalia chebula*



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

Laboratory Procedures

Gallic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the gallic acid in the solvent of choice, which should be purged with an inert gas. Gallic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of gallic acid in ethanol and DMSO is approximately 16 mg/ml and approximately 25 mg/ml in 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 gallic acid can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of gallic acid in PBS, pH 7.2, is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Gallic acid is a phenol that has been found in *C. sinensis* and has diverse biological activities.[1-4] It scavenges DPPH (Item No. 14805) and hydroxyl radicals in cell-free assays (IC_{50}s = 9.4 and 191 µM, respectively).[1] Gallic acid (1-100 µM) reverses abscisic acid-induced inhibition of hypocotyl growth in *A. caudatus* seedlings.[2] *In vivo*, gallic acid (21.8 g/kg) inhibits morpholine- and sodium nitrite-induced adenocarcinoma formation in mice.[3] It also inhibits passive cutaneous anaphylaxis in mice when administered at a dose of 50 mg/kg.[4]

References

1. Cos, P., Hermans, N., Calomme, M., *et al.* Comparative study of eight well-known polyphenolic antioxidants. *J. Pharm. Pharmacol.* **55(9)**, 1291-1297 (2003).
2. Ray, S.D., Guruprasad, K.N., and Laloraya, M.M. Antagonistic action of phenolic compounds on abscisic acid-induced inhibition of hypocotyl growth. *J. Exp. Bot.* **31(125)**, 1651-1656 (1980).
3. Mirvish, S.S., Cardesa, A., Wallcave, L., *et al.* Induction of mouse lung adenomas by amines or ureas plus nitrite and by N-nitroso compounds: Effect of ascorbate, gallic acid, thiocyanate, and caffeine. *J. Natl. Cancer Inst.* **55(3)**, 633-636 (1975).
4. Kar, K., Mohanta, P.K., Popli, S.P., *et al.* Inhibition of passive cutaneous anaphylaxis by compounds of Camellia sinensis. *Planta Med.* **42(1)**, 75-78 (1981).

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