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: C7H6O5
FW: 170.1
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis: λmax 218, 273 nm

Laboratory Procedures
For long term storage, we suggest that gallic acid be stored as supplied at -20°C. It should be stable for at least two years.
Gallic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the gallic acid in the solvent of choice. Gallic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. 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.
Gallic acid is a trihydroxybenzoic acid found in many plants as either the free acid or in the esterified form of gallotannins and ellagitannins. It demonstrates antioxidant activity by scavenging 2,2-diphenyl-1-picrylhydrazyl and hydroxyl free radicals with IC50 values of 9.4 and 191 μM, respectively, and inhibiting microsomal lipid peroxidation with an IC50 value of 1.51 μM.1 Gallic acid is often used as a standard for determining the phenol content of various analytes by the Folin-Ciocalteau assay where results are reported in gallic acid equivalents.2,3

References

Related Products
For a list of related products please visit: www.caymanchem.com/catalog/11846