

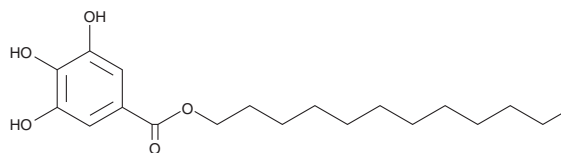
PRODUCT INFORMATION



Dodecyl Gallate

Item No. 31401

CAS Registry No.: 1166-52-5
Formal Name: 3,4,5-trihydroxy-benzoic acid, dodecyl ester
Synonyms: Gallic Acid dodecyl ester,
Gallic Acid lauryl ester,
Lauryl Gallate, NSC 133463
MF: C₁₉H₃₀O₅
FW: 338.4
Purity: ≥98%
UV/Vis.: λ_{max}: 220, 276 nm
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

Dodecyl gallate is supplied as a crystalline solid. A stock solution may be made by dissolving the dodecyl gallate in the solvent of choice, which should be purged with an inert gas. Dodecyl gallate is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of dodecyl gallate in these solvents is approximately 30 mg/ml.

Dodecyl gallate is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, dodecyl gallate should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Dodecyl gallate has a solubility of approximately 0.3 mg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Dodecyl gallate is a derivative of the antioxidant gallic acid (Item No. 11846) that has diverse biological activities, including antioxidant, antiproliferative, and antibacterial properties.¹⁻³ It inhibits proliferation of a variety of cancer cells, including WEHI-231 mouse B cell lymphoma, Daudi human lymphoma, and HT-29 human colon cancer cells (IC₅₀s = 0.8, 1.4, and 17.0 μM, respectively).¹ It induces apoptosis of WEHI-231 cells but not L-929 mouse fibroblasts. Dodecyl gallate decreases peroxidation of ox brain phospholipid liposomes by 71 and 76% when used at concentrations of 12 and 50 μM, respectively, and scavenges trichloromethyl peroxy radicals at 0.05% w/v.² It is active against a variety of Gram-positive bacteria, including *B. subtilis* (MIC = 25 μg/ml), as well as *M. luteus*, *S. aureus*, and methicillin-resistant *S. aureus* (MRSA; MICs = 12.5 μg/ml for all), and acts by inhibiting the bacterial membrane respiratory chain.³

References

1. Serrano, A., Palacios, C., Roy, G., *et al.* Derivatives of gallic acid induce apoptosis in tumoral cell lines and inhibit lymphocyte proliferation. *Arch. Biochem. Biophys.* **350(1)**, 49-54 (1998).
2. Aruoma, O.I., Murcia, A., Butler, J., *et al.* Evaluation of the antioxidant and prooxidant actions of gallic acid and its derivatives. *J. Agric. Food Chem.* **41(11)**, 1880-1885 (1993).
3. Kubo, I., Fujita, K.-i., Nihei, K.-i., *et al.* Non-antibiotic antibacterial activity of dodecyl gallate. *Bioorg. Med. Chem.* **11(4)**, 573-580 (2003).

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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