

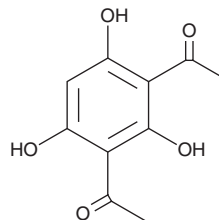
PRODUCT INFORMATION



2,4-Diacetylphloroglucinol

Item No. 16345

CAS Registry No.: 2161-86-6
Formal Name: 1,1'-(2,4,6-trihydroxy-1,3-phenylene)bis-ethanone
Synonyms: 5-Acetyl-2,4,6-trihydroxyacetophenone, DAPG, 1,3-Diacetyl-2,4,6-trihydroxybenzene
MF: C₁₀H₁₀O₅
FW: 210.2
Purity: ≥98%
UV/Vis.: λ_{max}: 269, 329 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

2,4-Diacetylphloroglucinol (DAPG) is supplied as a crystalline solid. A stock solution may be made by dissolving the DAPG in the solvent of choice, which should be purged with an inert gas. DAPG is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of DAPG in these solvents is approximately 25, 16, and 30 mg/ml, respectively.

DAPG is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, DAPG should first be dissolved in DMF and then diluted with the aqueous buffer of choice. DAPG has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

2,4-Diacetylphloroglucinol is a bacterial metabolite originally isolated from *P. fluorescens* that has diverse biological activities.¹ It is active against *B. subtilis*, *E. faecalis*, *S. aureus*, and *S. lividans* (MICs = 5, 50, 5, and 5 µg/ml, respectively). 2,4-Diacetylphloroglucinol is also active against the plant pathogenic fungi *F. oxysporum*, *P. debaryanum*, and *R. solani* (MICs = 16, 64, and 32-64 µg/ml, respectively). It reduces the growth of corn, flax, tobacco, and tomato seedlings (MICs = 16-32, 32, 8, and 16 µg/ml, respectively) and suppresses *T. basicola*-induced black root rot on tobacco plants. It also inhibits cell growth in A549 lung, MDA-MB-231 breast, and HeLa cervical cancer cells (IC₅₀s = 52, 94, and 141 nM, respectively).²

References

1. Keel, C., Ursula, S., Maurhofer, M., *et al.* Suppression of root diseases by *Pseudomonas fluorescens* CHAO: Importance of the bacterial secondary metabolite 2,4-diacetylphloroglucinol. *Mol. Plant Microbe Interact.* **5**(1), 4-13 (1995).
2. Veena, V.K., Popavath, R.N., Kennedy, K., *et al.* *In vitro* antiproliferative, pro-apoptotic, antimetastatic and anti-inflammatory potential of 2,4-diacetylphloroglucinol (DAPG) by *Pseudomonas aeruginosa* strain FP10. *Apoptosis* **20**(10), 1281-1295 (2015).

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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