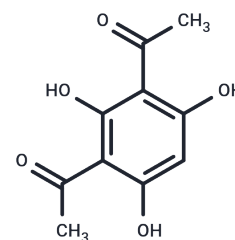


## 2,4-Diacetylphloroglucinol

## Chemical Properties

CAS No. :	2161-86-6
Formula:	C <sub>10</sub> H <sub>10</sub> O <sub>5</sub>
Molecular Weight:	210.18
Storage:	Store at low temperature Powder: -20°C for 3 years   In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



## Biological Description

Description	2,4-Diacetylphloroglucinol is a polyketide antibiotic discovered in <i>Pseudomonas fluorescens</i> , exhibiting broad-spectrum toxicity against bacteria, fungi, oomycetes, nematodes, and plant pathogens.
Targets(IC50)	Antibacterial, Antibiotic, Parasite, Antifungal
In vitro	2,4-Diacetylphloroglucinol (0-100 μM, 0-4 days) inhibited primary root elongation, promoted lateral root formation, and induced necrosis at the primary root tip along with purple stress phenotypes in the hypocotyl when applied to <i>Solanum lycopersicum</i> and <i>Solanum melongena</i> seedlings. Its mechanism of action is associated with the regulation of auxin signaling pathways [1]. 2,4-Diacetylphloroglucinol (0-40 μg/mL, 0-6 hours) was capable of suppressing the formation and motility of zoospores in <i>Plasmopara viticola</i> and <i>Aphanomyces cochlioides</i> [2].
In vivo	2,4-Diacetylphloroglucinol (0-100 μg/mL, incubation treatment for 0-7 days) exhibited toxic effects on adult <i>Xiphinema americanum</i> , with an LD50 of 8.3 μg/mL. It also inhibited the egg hatching rate of <i>Meloidogyne incognita</i> , but displayed a unique phenomenon of stimulating egg hatching during the early incubation period in <i>Caenorhabditis elegans</i> [3].

## Solubility Information

Solubility	DMSO: 80.00 mg/mL (380.63 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	4.7578 mL	23.7891 mL	47.5783 mL
5 mM	0.9516 mL	4.7578 mL	9.5157 mL
10 mM	0.4758 mL	2.3789 mL	4.7578 mL
50 mM	0.0952 mL	0.4758 mL	0.9516 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Brazelton JN, et al. 2,4-diacetylphloroglucinol alters plant root development. *Mol Plant Microbe Interact.* 2008 Oct; 21(10):1349-58.

Islam MT, et al. 2,4-Diacetylphloroglucinol suppresses zoosporogenesis and impairs motility of Peronosporomycete zoospores. *World J Microbiol Biotechnol.* 2011 Sep;27(9):2071-2079.

Susan L F Meyer, et al. Toxicity of 2,4-diacetylphloroglucinol (DAPG) to plant-parasitic and bacterial-feeding nematodes. *J Nematol.* 2009 Dec;41(4):274-80.

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