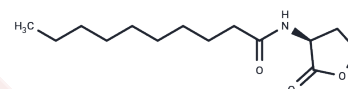


## N-decanoyl-L-Homoserine lactone

## Chemical Properties

CAS No. :	177315-87-6
Formula:	C <sub>14</sub> H <sub>25</sub> NO <sub>3</sub>
Molecular Weight:	255.35
Storage:	Powder: -20°C for 3 years   In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



## Biological Description

Description	N-decanoyl-L-Homoserine lactone (C10-HSL) is an N-acyl-homoserine lactone (AHL) produced by Pseudomonas cremoris strain ND07. N-decanoyl-L-homoserine lactone inhibits the growth of primary roots of Arabidopsis thaliana. N-decanoyl-L-homoserine lactone treatment caused a transient and immediate increase in free Ca <sup>2+</sup> and reactive oxygen species (ROS) concentrations in the root cytoplasm. N-decanoyl-L-homoserine lactone treatment induced transient and immediate increases in cytoplasmic free Ca <sup>2+</sup> and reactive oxygen species (ROS) concentrations in Arabidopsis roots, increased mitogen-activated protein kinase 6 (MPK6) activity, and contributed to the production of nitric oxide (NO).
Targets(IC50)	Reactive Oxygen Species, Antibacterial, ROS
In vitro	N-decanoyl-L-Homoserine lactone (0-75 μM) causes reduced primary root growth and promotes lateral root formation in Arabidopsis.[1] N-decanoyl-L-Homoserine lactone (0-30 μM) can increase the cytosolic Ca <sup>2+</sup> concentration in wild-type seedlings.[1] The bacterial signal N-decanoyl-L-Homoserine lactone stimulates Galactomyces geotrichum spore germination through cross-kingdom interactions.[2]

## Solubility Information

Solubility	DMSO: 125 mg/mL (489.52 mM), Sonication is recommended. Ethanol: 5 mg/mL (19.58 mM), Sonication is recommended. DMF: PBS (pH 7.2) (1:4): 0.2 mg/mL (0.78 mM), Sonication is recommended. DMF: 30 mg/mL (117.49 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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	<b>1mg</b>	<b>5mg</b>	<b>10mg</b>
1 mM	3.9162 mL	19.581 mL	39.1619 mL
5 mM	0.7832 mL	3.9162 mL	7.8324 mL
10 mM	0.3916 mL	1.9581 mL	3.9162 mL
50 mM	0.0783 mL	0.3916 mL	0.7832 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

Barnard, A.M.L., and Salmond, G.P.C. Quorum sensing: The complexities of chemical communication between bacteria *Complexus* 5(2), 87-101 (2004).

Williams, P. Quorum sensing, communication and cross-kingdom signalling in the bacterial world *Microbiology* 153 (Pt 12), 3923-3938 (2007).

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