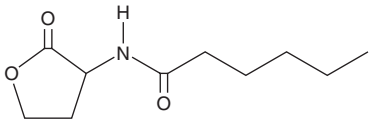
PRODUCT INFORMATION

N-hexanoyl-DL-Homoserine lactone

Item No. 10011197

CAS Registry No.: 106983-28-2
Formal Name: N-(tetrahydro-2-oxo-3-furanyl)-hexanamide
Synonyms: C6-HSL, N-hexanoyl Homoserine lactone
MF: $C_{10}H_{17}NO_3$
FW: 199.2
Purity: ≥98%
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

N-hexanoyl-DL-Homoserine lactone is supplied as a crystalline solid. A stock solution may be made by dissolving the N-hexanoyl-DL-homoserine lactone in the solvent of choice, which should be purged with an inert gas. N-hexanoyl-DL-Homoserine lactone is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of N-hexanoyl-DL-homoserine lactone in these solvents is approximately 30 mg/ml. While N-hexanoyl-DL-homoserine lactone is also soluble in ethanol and other primary alcohols, their use is not recommended as they have been shown to open the lactone ring.

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 N-hexanoyl-DL-homoserine lactone can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of N-hexanoyl-DL-homoserine lactone in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day

Description

N-hexanoyl-DL-Homoserine lactone is a bacterial quorum sensing signaling molecule that is produced by mammalian pathogenic and rhizosphere-colonizing bacteria.[1,2,3] Application of N-hexanoyl-DL-homoserine lactone (60 µM) to tomato leaves suppresses the development of lesions induced by the plant pathogenic fungi *B. cinerea*.[2] It also increases root length and shoot diameter when applied to *A. thaliana* seedlings in a hydroponic growth system at a concentration of 10 µM.[3]

References

1. Ngeow, Y.F., Cheng, H.J., Chen, J.W., *et al.* Short chain *N*-acylhomoserine lactone production by clinical multidrug resistant *Klebsiella pneumoniae* strain CSG20. *Sensors (Basel)* **13(11)**, 15242-15251 (2013).
2. Hu, Z., Shao, S., Zheng, C., *et al.* Induction of systemic resistance in tomato against *Botrytis cinerea* by *N*-decanoyl-homoserine lactone via jasmonic acid signaling. *Planta* **247(5)**, 1217-1227 (2018).
3. von Rad, U., Klein, I., Dobrev, P.I., *et al.* Response of *Arabidopsis thaliana* to *N*-hexanoyl-DL-homoserine-lactone, a bacterial quorum sensing molecule produced in the rhizosphere. *Planta* **229(1)**, 73-85 (2008).

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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