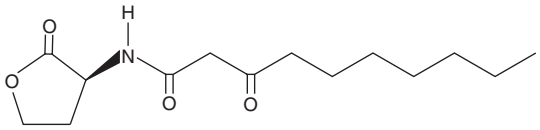
PRODUCT INFORMATION

N-3-oxo-decanoyl-L-Homoserine lactone

Item No. 13026

CAS Registry No.: 147795-40-2
Formal Name: 3-oxo-N-[(3S)-tetrahydro-2-oxo-3-furanyl]-decanamide
Synonym: N-3-oxo-decanoyl-L-HSL
MF: $C_{14}H_{23}NO_4$
FW: 269.3
Purity: ≥95%
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-3-oxo-decanoyl-L-Homoserine lactone is supplied as a crystalline solid. A stock solution may be made by dissolving the N-3-oxo-decanoyl-L-homoserine lactone in the solvent of choice, which should be purged with an inert gas. N-3-oxo-decanoyl-L-Homoserine lactone is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of N-3-oxo-decanoyl-L-homoserine lactone in these solvents is approximately 30 mg/ml. While N-3-oxo-decanoyl-L-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.

Description

N-3-oxo-decanoyl-L-Homoserine lactone is a quorum-sensing signaling molecule that is produced by bacteria in response to increasing cell density.[1] It increases expression of the bacterial conjugation gene *tra* in *A. tumefaciens* in a reporter cell assay. N-3-oxo-decanoyl-L-Homoserine lactone (100 nM) induces adventitious root formation and increases expression of the auxin-response genes *AUX22c* and *AUX22d* and the cell division genes *CDC2*, *ARC*, and *CDPK* in mung bean seedlings.[2] It decreases expression of glucanase genes in *A. thaliana* when used at a concentration of 6 µM.[3]

References

1. Zhang, L., Murphy, P.J., Kerr, A., *et al.* Agrobacterium conjugation and gene regulation by N-acyl-L-homoserine lactones. *Nature* **362(6419)**, 446-448 (1993).
2. Bai, X., Todd, C.D., Desikan, R., *et al.* N-3-oxo-decanoyl-L-homoserine-lactone activates auxin-induced adventitious root formation *via* hydrogen peroxide- and nitric oxide-dependent cyclic GMP signaling in mung bean. *Plant Physiol.* **158(2)**, 725-736 (2012).
3. Schenk, S.T., Hernández-Reyes, C., Samans, B., *et al.* N-acyl-homoserine lactone primes plants for cell wall reinforcement and induces resistance to bacterial pathogens via the salicylic acid/oxylipin pathway. *Plant Cell* **26(6)**, 2708-2723 (2014).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM