

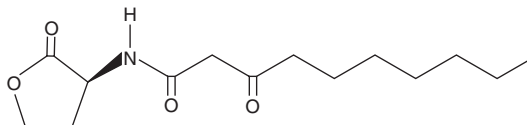
PRODUCT INFORMATION



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: C₁₄H₂₃NO₄
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/oxylin pathway. *Plant Cell* **26**(6), 2708-2723 (2014).

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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