

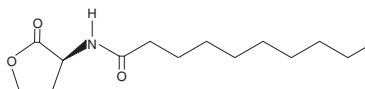
PRODUCT INFORMATION



N-decanoyl-L-Homoserine lactone

Item No. 10011201

CAS Registry No.: 177315-87-6
Formal Name: N-[(3S)-tetrahydro-2-oxo-3-furanyl]-decanamide
Synonym: C10-HSL
MF: C₁₄H₂₅NO₃
FW: 255.4
Purity: ≥96%
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-decanoyl-L-homoserine lactone (C10-HSL) is supplied as a crystalline solid. A stock solution may be made by dissolving the C10-HSL in an organic solvent purged with an inert gas. C10-HSL is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of C10-HSL in these solvents is approximately 20 and 30 mg/ml, respectively. While C10-HSL is also soluble in ethanol and other primary alcohols, their use is not recommended as they have been shown to open the lactone ring.

C10-HSL is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, C10-HSL should first be dissolved in DMF and then diluted with the aqueous buffer of choice. C10-HSL has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Quorum sensing is a regulatory system used by bacteria for controlling gene expression in response to increasing cell density. A promising field of study involves controlling bacterial infections by quenching their quorum sensing systems. The expression of specific target genes, such as transcriptional regulators belonging to the LuxIR family of proteins, is coordinated by synthesis of diffusible acylhomoserine lactone (AHL) molecules. C10-HSL is a small diffusible signaling molecule involved in quorum sensing, thereby controlling gene expression and affecting cellular metabolism.¹ The applications of this molecule include regulation of virulence and exoproteases.²

References

1. Barnard, A.M.L. and Salmond, G.P.C. Quorum sensing: The complexities of chemical communication between bacteria. *Complexus* **5**(2), 87-101 (2004).
2. Williams, P. Quorum sensing, communication and cross-kingdom signalling in the bacterial world. *Microbiology* **153**, 3923-3938 (2007).

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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