

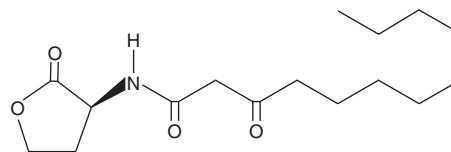
# PRODUCT INFORMATION



## N-3-oxo-dodecanoyl-L-Homoserine lactone

Item No. 10007895

**CAS Registry No.:** 168982-69-2  
**Formal Name:** 3-oxo-N-[(3S)-tetrahydro-2-oxo-3-furanyl]-dodecanamide  
**Synonyms:** N-(3-oxododecanoyl) L-Homoserine lactone, 3-oxo-C12-HSL  
**MF:** C<sub>16</sub>H<sub>27</sub>NO<sub>4</sub>  
**FW:** 297.4  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 250 nm  
**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-dodecanoyl-L-Homoserine lactone (3-oxo-C12-HSL) is supplied as a crystalline solid. A stock solution may be made by dissolving the 3-oxo-C12-HSL in the solvent of choice, which should be purged with an inert gas. 3-oxo-C12-HSL is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of 3-oxo-C12-HSL in these solvents is approximately 20 mg/ml. While 3-oxo-C12-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.

### Description

3-oxo-C12-HSL is a bacterial quorum-sensing signaling molecule produced by *P. aeruginosa* and strains of the *B. cepacia* complex.<sup>1,2</sup> It induces the production of IL-8 in 16HBE human bronchial epithelial cells when used at a concentration of 100 μM.<sup>3</sup> Supernatants from 3-oxo-C12-HSL-stimulated 16HBE cells induce chemotaxis of isolated human neutrophils. 3-oxo-C12-HSL has been found in respiratory secretions from patients with cystic fibrosis infected with *P. aeruginosa*.<sup>2</sup>

### References

1. Pearson, J.P., Gray, K.M., Passador, L., *et al.* Structure of the autoinducer required for expression of *Pseudomonas aeruginosa* virulence genes. *Proc. Natl. Acad. Sci. USA* **91**(1), 197-201 (1994).
2. Chambers, C.E., Visser, M.B., Schwab, U., *et al.* Identification of N-acylhomoserine lactones in mucopurulent respiratory secretions from cystic fibrosis patients. *FEMS Microbiol. Lett.* **244**(2), 297-304 (2005).
3. Smith, R.S., Fedyk, E.R., Springer, T.A., *et al.* IL-8 production in human lung fibroblasts and epithelial cells activated by the *Pseudomonas* autoinducer N-3-oxododecanoyl homoserine lactone is transcriptionally regulated by NF-κB and activator protein-2. *J. Immunol.* **167**(1), 366-374 (2001).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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