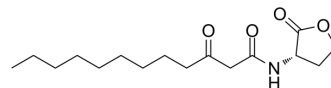


N-3-oxo-dodecanoyl-L-homoserine lactone

Cat. No.:	HY-114544A
CAS No.:	168982-69-2
Molecular Formula:	C ₁₆ H ₂₇ NO ₄
Molecular Weight:	297.39
Target:	Bacterial
Pathway:	Anti-infection
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (336.26 mM; Need ultrasonic)					
	H ₂ O : < 0.1 mg/mL (ultrasonic;warming;heat to 60°C) (insoluble)					
	Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg
			1 mM	3.3626 mL	16.8129 mL	33.6259 mL
			5 mM	0.6725 mL	3.3626 mL	6.7252 mL
10 mM			0.3363 mL	1.6813 mL	3.3626 mL	
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (8.41 mM); Clear solution					
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (8.41 mM); Clear solution					
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (8.41 mM); Clear solution					

BIOLOGICAL ACTIVITY

Description	N-3-oxo-dodecanoyl-L-Homoserine lactone (3-oxo-C12-HSL) is a bacterial quorum-sensing signaling molecule produced by <i>P. aeruginosa</i> and strains of the <i>B. cepacia</i> complex ^{[1][2]} . Quorum sensing is a regulatory system used by bacteria for controlling gene expression in response to increasing cell density. N-3-oxo-dodecanoyl-L-Homoserine lactone induces the production of IL-8 in 16HBE human bronchial epithelial cells ^[3] .
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REFERENCES

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- [1]. Pearson JP, Gray KM, Passador L, Tucker KD, Eberhard A, Iglewski BH, Greenberg EP. Structure of the autoinducer required for expression of *Pseudomonas aeruginosa* virulence genes. *Proc Natl Acad Sci U S A*. 1994 Jan 4;91(1):197-201.
- [2]. Chambers CE, Visser MB, Schwab U, Sokol PA. Identification of N-acylhomoserine lactones in mucopurulent respiratory secretions from cystic fibrosis patients. *FEMS Microbiol Lett*. 2005 Mar 15;244(2):297-304.
- [3]. Smith RS, Fedyk ER, Springer TA, Mukaida N, Iglewski BH, Phipps RP. 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-kappa B α
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Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA