
Product Data Sheet

Product Name: N-butyryl-L-Homoserine lactone

Cat. No.: GC19519

Chemical Properties

Cas. No. 67605-85-0

Chemical Name N-[(3S)-tetrahydro-2-oxo-3-furanyl]-butanamide

SMILES CCCC(=O)N[C@H]1CCOC1=OFormula $C_8H_{13}NO_3$

M.Wt 171.2

Solubility DMF: 30 mg/ml, DMSO: 30 mg/ml, Ethanol: 30 mg/ml, PBS (pH 7.2): 10 mg/ml

Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure **Background**

Quorum sensing is a regulatory system used by bacteria for controlling gene expression in response to increasing cell density. Controlling bacterial infections by quenching their quorum sensing systems is a promising field of study. 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. N-butyryl-L-Homoserine lactone is a small diffusible signaling molecule involved in quorum sensing, controlling gene expression, and cellular metabolism.[1] The diverse applications of this molecule include regulation of virulence in general, infection prevention, and formation of biofilms.[2],[3],[4],[5],[6],[7]

Reference:

[1]. Gould, T.A., Herman, J., Krank, J., et al. Specificity of acyl-homoserine lactone syntheses examined by mass spectrometry *Journal of Bacteriology* 188(2), 773-783

Caution: Product has not been fully validated for medical applications. For research use only.

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- [3]. Diggle, S.P., Winzer, K., Lazdunski, A., et al. Advancing the quorum in pseudomonas aeruginosa: MvaT and the regulation of n-acylhomoserine lactone production and virulence gene expression Journal of Bacteriology 184(10), 2576-2586 (2002).
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