

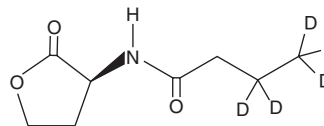
PRODUCT INFORMATION



N-butyryl-L-Homoserine lactone-d₅

Item No. 10007899

CAS Registry No.: 2701379-46-4
Formal Name: N-[(3S)-tetrahydro-2-oxo-3-furanyl]-butanamide-3,3,4,4,4-d₅
Synonyms: BHL-d₅, C4-HSL-d₅, PAI-2-d₅
MF: C₈H₈D₅NO₃
FW: 176.2
Chemical Purity: ≥98% (N-butyryl-L-Homoserine lactone)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₅); ≤1% d₀
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-butyryl-L-Homoserine lactone-d₅ is intended for use as an internal standard for the quantification of N-butyryl-L-homoserine lactone (Item No. 10007898) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

N-butyryl-L-Homoserine lactone-d₅ is supplied as a crystalline solid. A stock solution may be made by dissolving the N-butyryl-L-homoserine lactone-d₅ in the solvent of choice, which should be purged with an inert gas. N-butyryl-L-Homoserine lactone-d₅ is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of N-butyryl-L-homoserine lactone-d₅ in these solvents is approximately 30 mg/ml. While N-butyryl-L-homoserine lactone-d₅ 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-butyryl-L-Homoserine lactone is a quorum-sensing signaling molecule produced by *P. aeruginosa*.¹ It induces expression of the virulence genes *lasB* and *rhlA* in *P. aeruginosa* when used at a concentration of 10 μM.² N-butyryl-L-Homoserine lactone (50 μM) induces rhamnolipid accumulation in *P. aeruginosa* growth media.³

References

1. Pearson, J.P., Passador, L., Iglewski, B.H., et al. A second N-acylhomoserine lactone signal produced by *Pseudomonas aeruginosa*. *Proc. Natl. Acad. Sci. USA* **92**(5), 1490-1494 (1995).
2. Ikeda, T., Kajiyama, K., Kita, T., et al. The synthesis of optically pure enantiomers of N-acyl-homoserine lactone autoinducers and their analogues. *Chem. Lett.* **30**(4), 314-315 (2001).
3. Schooling, S.R., Charaf, U.K., Allison, D.G., et al. A role for rhamnolipid in biofilm dispersion. *Biofilm* **1**(2), 91-99 (2004).

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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