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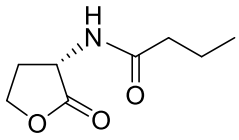
PRODUCT DATA SHEET

Butyryl-L-homoserine lactone

Code No.: **BIA-B1494**

Pack sizes: **5 mg, 25 mg**



Synonyms : C4-HSL, N-Butyryl-L-homoserine lactone, PAI

Specifications

CAS #	:	**67605-85-0**
Molecular Formula	:	**$C_8H_{13}NO_3$**
Molecular Weight	:	**171.2**
Source	:	**Synthetic**
Appearance	:	**White solid**
Purity	:	**>95% by HPLC**
Long Term Storage	:	**-20°C**
Solubility	:	**Soluble in methanol, DMSO. Poor water solubility.**

Application Notes

Butyryl-L-homoserine lactone is a short acylhomoserine lactone isolated from Pseudomonas aeruginosa in 1995 and demonstrated to be a quorum sensing modulator in biofilms. Acylhomoserine lactones have been detected in hundreds of bacterial species and, while the homologues vary between species and strains, the homoserine lactones are the major chemical modulators of within and between cell communication and regulation. The most significant variable defining the function of the homoserine lactone is the length of the acyl chain, with shorter chains displaying opposing actions to the longer chains.

References

1. Autoinducer-mediated regulation of rhamnolipid biosurfactant synthesis in Pseudomonas aeruginosa. Ochsner U.A. & Reiser J. Proc. Natl. Acad. Sci. U.S.A. 1995, 92, 6424.
2. Quorum sensing and Chromobacterium violaceum: exploitation of violacein production and inhibition for the detection of N-acylhomoserine lactones. McClean K.H. et al., Microbiology 1997, 143, 3703.
3. N-Acylhomoserine lactones are potent neutrophil chemoattractants that act via calcium mobilization and actin remodeling. Karlsson T. et al., J. Leukoc. Biol. 2012, 91, 15.
4. Small molecule inhibitors of bacterial quorum sensing and biofilm formation. Geske G.D. et al., J. Am. Chem. Soc. 2005, 127, 12762.

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