

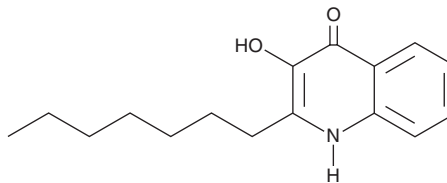
PRODUCT INFORMATION



2-heptyl-3-hydroxy-4(1H)-Quinolone

Item No. 29186

CAS Registry No.: 108985-27-9
Formal Name: 2-heptyl-3-hydroxy-4(1H)-quinolinone
Synonyms: PQS, *Pseudomonas* Quinolone Signal
MF: C₁₆H₂₁NO₂
FW: 259.3
Purity: ≥95%
UV/Vis.: λ_{max}: 216, 251, 342 nm
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Synthetic



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

2-heptyl-3-hydroxy-4(1H)-Quinolone is supplied as a solid. A stock solution may be made by dissolving the 2-heptyl-3-hydroxy-4(1H)-quinolone in the solvent of choice, which should be purged with an inert gas. 2-heptyl-3-hydroxy-4(1H)-Quinolone is soluble in methanol.

Description

2-heptyl-3-hydroxy-4(1H)-Quinolone is a quorum-sensing signaling molecule produced by *P. aeruginosa* in response to increasing cell density.¹ It increases expression of the *lasB* gene, which encodes the virulence factor elastase, in *P. aeruginosa* (EC₅₀ = ~30 μM in a reporter cell assay). 2-heptyl-3-hydroxy-4(1H)-Quinolone (60 μM) increases secretion of the metabolite pyocyanin (Item No. 10009594) and the lectin PA-IL, as well as increases biofilm production in *P. aeruginosa* populations.² It also reduces iron levels in *P. aeruginosa* growth media when used at a concentration of 40 μM and acts as an iron chelator in a Fe(III)-sulfate solution.³

References

1. Pesci, E.C., Milbank, J.B.J., Pearson, J.P., *et al.* Quinolone signaling in the cell-to-cell communication system of *Pseudomonas aeruginosa*. *Proc. Natl. Acad. Sci. USA* **96(20)**, 11229-11234 (1999).
2. Diggle, S.P., Winzer, K., Chhabra, S.R., *et al.* The *Pseudomonas aeruginosa* quinolone signal molecule overcomes the cell density-dependency of the quorum sensing hierarchy, regulates *rhl*-dependent genes at the onset of stationary phase and can be produced in the absence of LasR. *Mol. Microbiol.* **50(1)**, 29-43 (2003).
3. Bredenbruch, F., Geffers, R., Nimtz, M., *et al.* The *Pseudomonas aeruginosa* quinolone signal (PQS) has an iron-chelating activity. *Environ. Microbiol.* **8(8)**, 1318-1329 (2006).

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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