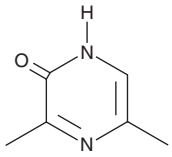
PRODUCT INFORMATION

DPO

Item No. 46453

CAS Registry No.: 60187-00-0
Formal Name: 3,5-dimethyl-2(1H)-pyrazinone
Synonyms: 3,5-Dimethylpyrazin-2-ol, 3,5-DPO
MF: $C_6H_8N_2O$
FW: 124.1
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Bacterium/*Vibrio cholerae*



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

Laboratory Procedures

DPO is supplied as a solid. A stock solution may be made by dissolving the DPO in the solvent of choice, which should be purged with an inert gas. DPO is soluble (≥10 mg/ml) in DMSO and slightly soluble (0.1-1 mg/ml) in ethanol.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of DPO can be prepared by directly dissolving the solid in aqueous buffers. DPO is soluble (≥10 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

DPO is a bacterial quorum-sensing signaling molecule produced by *V. cholerae*, *S. typhimurium*, and commensal bacteria.[1-4] It activates the *V. cholerae* transcription factor VqmA (EC_{50} = ~1 µM) and inhibits *V. cholerae* biofilm formation *in vitro*.[1,2]

References

1. Huang, X., Duddy, O.P., Silpe, J.E., *et al.* Mechanism underlying autoinducer recognition in the *Vibrio cholerae* DPO-VqmA quorum-sensing pathway. *J. Biol. Chem.* **295(10)**, 2916-2931 (2020).
2. Papenfort, K., Silpe, J.E., Schramma, K.R., *et al.* A *Vibrio cholerae* autoinducer-receptor pair that controls biofilm formation. *Nat. Chem. Biol.* **13(5)**, 551-557 (2017).
3. Lallement, C., Goldring, W.P.D., and Jelsbak, L. Global transcriptomic response of the AI-3 isomers 3,5-DPO and 3,6-DPO in *Salmonella* Typhimurium. *Arch. Microbiol.* **205(4)**, 117 (2023).
4. Moraskie, M., Li, S., Codina, J.R., *et al.* DPO production by gut commensals suggests a broader role in bacterial communication and host-microbiome interactions. *NPJ Biofilms Microbiomes* **12(1)**, 19 (2025).

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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CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM