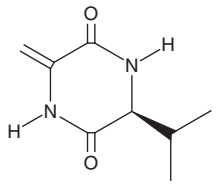
PRODUCT INFORMATION

Cyclo(Δ-Ala-L-Val)

Item No. 25739

CAS Registry No.: 25516-00-1
Formal Name: 3-methylene-6S-(1-methylethyl)-2,5-piperazinedione
MF: $C_8H_{12}N_2O_2$
FW: 168.2
Purity: ≥98%
Supplied as: A 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

Cyclo(Δ-Ala-L-Val) is supplied as a solid. A stock solution may be made by dissolving the cyclo(Δ-Ala-L-Val) in the solvent of choice, which should be purged with an inert gas. Cyclo(Δ-Ala-L-Val) is soluble in organic solvents such as ethanol, methanol, DMSO, and dimethyl formamide.

Cyclo(Δ-Ala-L-Val) is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

Cyclo(Δ-Ala-L-Val) is a bacterial cyclic dipeptide characterized as a diketopiperazine.[1] It activates a LuxR-based N-acylhomoserine lactone (AHL) *E. coli* biosensor and blocks activation of the biosensor by the quorum sensing signal molecule N-(β-ketocaproyl)-L-homoserine lactone (3-oxo-C6-HSL; Item No. 10011207) with an IC_{50} value of 0.8 mM. Cyclo(Δ-Ala-L-Val) (15 µM) reduces *S. liquefaciens* colony expansion by 21%, indicating inhibition of swarming motility. It also inhibits the interaction of the kinases Ras and Raf-1 in a yeast two-hybrid assay in a concentration-dependent manner.[2]

References

1. Holden, M.T.G., Chhabra, S.R., de Nys, R., *et al.* Quorum-sensing cross talk: Isolation and chemical characterization of cyclic dipeptides from *Pseudomonas aeruginosa* and other gram-negative bacteria. *Mol. Microbiol.* **33(6)**, 1254-1266 (1999).
2. Cheenpracha, S., Borris, R.P., Tran, T.T., *et al.* Three new amides from *Streptomyces* sp. H7372. *J. Braz. Chem. Soc.* **22(2)**, 223-229 (2011).

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