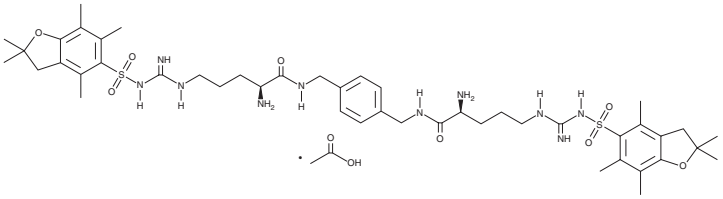
PRODUCT INFORMATION

dAPM-1 (acetate salt)

Item No. 41943



Formal Name: (S)-2-amino-N-(4-(((S)-2-Mamino-5-(3-((2,2,4,6,7-pentamethyl-2,3-dihydrobenzofuran-5-yl)sulfonyl)guanidino)pentanamido)methyl)benzyl)-5-(3-((2,2,4,6,7-pentamethyl-2,3-dihydrobenzofuran-5-yl)sulfonyl)guanidino)pentanamide, monoacetic acid

Synonym: Diarginine Peptidomimetic-1

MF: $C_{46}H_{68}N_{10}O_8S_2 \bullet C_2H_4O_2$

FW: 1,013.3

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

dAPM-1 (acetate salt) is supplied as a solid. A stock solution may be made by dissolving the dAPM-1 (acetate salt) in the solvent of choice, which should be purged with an inert gas. dAPM-1 (acetate salt) is slightly soluble (0.1-1 mg/ml) in acetonitrile

dAPM-1 (acetate salt) is slightly soluble (0.1-1 mg/ml) 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

dAPM-1 is a peptidomimetic antibiotic agent.[1] dAPM-1 forms self-aggregates in the presence of dsDNA with a critical aggregation concentration (CAC) of 8 µg/ml. It selectively induces intracellular aggregation in *B. subtilis* over HEK293T cells at 128 µg/ml. It is active against *S. aureus*, methicillin-resistant *S. aureus* (MRSA), *B. subtilis*, *E. faecium*, and *M. smegmatis* (MICs = 8, 4, 4, 8, and 16 µg/ml, respectively) and is not cytotoxic to NIH3T3 or HK-2 cells (IC_{50}s = >256 µg/ml for both). Extended exposure of *S. aureus* or *E. coli* to dAPM-1 for greater than 40 and 30 days, respectively, does not induce resistance to dAPM-1. *In vivo*, dAPM-1 (10 mg/kg) increases survival in a mouse model of sepsis induced by *S. aureus*.

Reference

1. Yang, A., Song, J., Li, J., *et al.* Ligand-receptor interaction-induced intracellular phase separation: A global disruption strategy for resistance-free lethality of pathogenic bacteria. *J. Am. Chem. Soc.* **146(33)**, 23121-23137 (2024).

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