

PRODUCT INFORMATION



Virginiamycin S1

Item No. 17455

CAS Registry No.: 23152-29-6
Formal Name: N-((6R,9S,10R,13S,15aS,22S,24aS)-22-benzyl-6-ethyl-10,23-dimethyl-5,8,12,15,17,21,24-heptaaxo-13-phenyldocosahydro-12H-pyrido[2,1-f]pyrrolo[2,1-l][1]oxa[4,7,10,13,16]pentaazacyclonadecin-9-yl)-3-hydroxypicolinamide

Synonyms: Antibiotic 1754Z3B, Staphylomycin S1

MF: C₄₃H₄₉N₇O₁₀

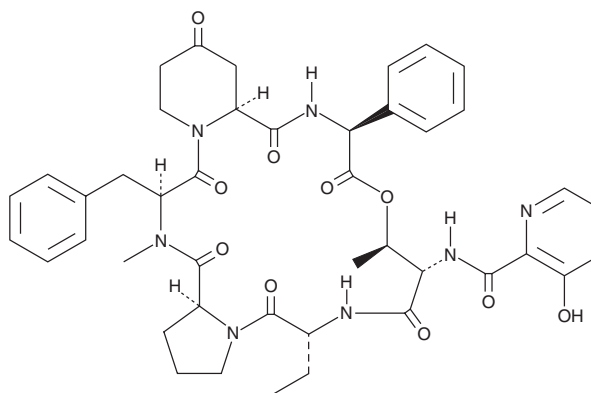
FW: 823.9

Purity: ≥95%

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

Virginiamycin S1 is supplied as a solid. A stock solution may be made by dissolving the virginiamycin S1 in the solvent of choice, which should be purged with an inert gas. Virginiamycin S1 is soluble in ethanol, methanol, DMSO, and dimethyl formamide.

Virginiamycin S1 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

Virginiamycin S1 is a macrolide antibiotic that is a component of the virginiamycin complex (Item No. 14503), which also contains virginiamycin M1 (Item No. 9002172).¹ It is a member of the streptogramin B group of antibiotics, which bind the 50S ribosomal subunit at the peptidyl transferase center to inhibit initiation and translocation.² They show good bactericidal activity against methicillin-resistant *S. aureus* (MRSA), although resistance in MRSA is conferred by the *cfr* gene.^{2,3} Virginiamycin S1 acts synergistically with virginiamycin M1 to irreversibly inhibit protein synthesis in bacteria.⁴

References

1. Ningsih, F., Kitani, S., Fukushima, E., *et al.* VisG is essential for biosynthesis of virginiamycin S, a streptogramin type B antibiotic, as a provider of the nonproteinogenic amino acid phenylglycine. *Microbiology* **157**(Pt. 11), 3213-3220 (2011).
2. Fair, R.J. and Tor, Y. Antibiotics and bacterial resistance in the 21st century. *Perspect. Medicin. Chem.* **6**, 25-64 (2014).
3. Kehrenberg, C., Cuny, C., Strommenger, B., *et al.* Methicillin-resistant and -susceptible *Staphylococcus aureus* strains of clonal lineages ST398 and ST9 from swine carry the multidrug resistance gene *cfr*. *Antimicrob. Agents Chemother.* **53**(2), 779-781 (2009).
4. Parfait, R. and Cocito, C. Lasting damage to bacterial ribosomes by reversibly bound virginiamycin M. *Proc. Natl. Acad. Sci. USA* **77**(9), 5492-5496 (1980).

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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