

# PRODUCT INFORMATION

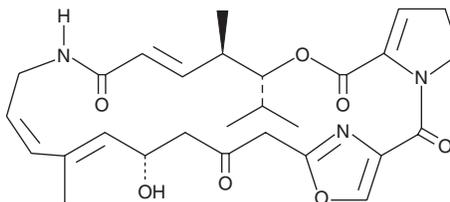


## Virginiamycin M1

Item No. 9002172

**CAS Registry No.:** 21411-53-0  
**Formal Name:** (3R,4R,5E,10E,12E,14S)-8,9,14,15,24,25-hexahydro-14-hydroxy-4,12-3H-21,18-nitrilo-1H,22H-pyrrolo[2,1-c][1,8,4,19]dioxadiazacyclotetracosine-1,7,16,22(4H,17H)-tetrone  
**Synonyms:** Mikamycin A, NSC 244426, NSC 87432, Ostreogrycin A, Pristinamycin IIA, RP 12536, Streptogramin A

**MF:** C<sub>28</sub>H<sub>35</sub>N<sub>3</sub>O<sub>7</sub>  
**FW:** 525.6  
**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 M1 is supplied as a solid. A stock solution may be made by dissolving the virginiamycin M1 in the solvent of choice, which should be purged with an inert gas. Virginiamycin M1 is soluble in DMSO and dimethyl formamide. Virginiamycin M1 is also slightly soluble in ethanol and methanol

### Description

Virginiamycin M1 is a macrolide antibiotic. It is a member of the streptogramin A group of antibiotics, which bind the 50S ribosomal subunit at the peptidyl transferase center to inhibit initiation and translocation.<sup>1</sup> They show good bactericidal activity against methicillin-resistant *S. aureus* (MRSA), although resistance in MRSA is conferred by the *cfr* gene.<sup>1,2</sup> Virginiamycin M1 acts synergistically with virginiamycin S1 to irreversibly inhibit protein synthesis in bacteria.<sup>3</sup>

### References

1. Fair, R.J. and Tor, Y. Antibiotics and bacterial resistance in the 21st century. *Perspect. Medicin. Chem.* **6**, 25-64 (2014).
2. 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).
3. 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.

#### WARRANTY AND LIMITATION OF REMEDY

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