

# PRODUCT INFORMATION

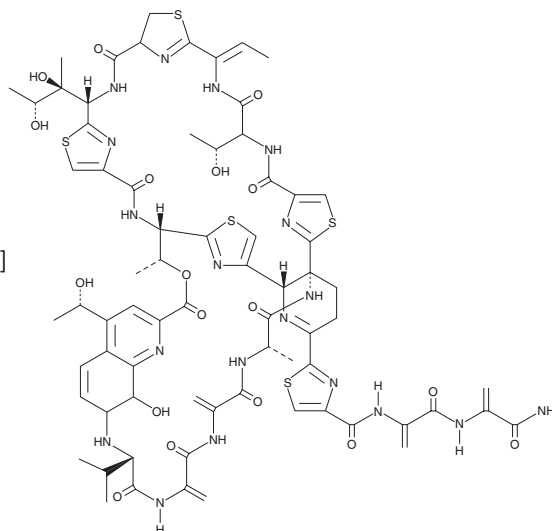


## Siomycin A

Item No. 15378

**CAS Registry No.:** 12656-09-6  
**Formal Name:** N-[(7R,8S)-2-carboxy-7,8-dihydro-8-hydroxy-4-[(1S)-1-hydroxyethyl]-7-quinoliny]-L-valyl-2,3-didehydroalanyl-2,3-didehydroalanyl-L-alanyl-2-[(4aR,11S,14Z,18S,21S,28S,32aS)-4a-amino-21-[(1S,2R)-1,2-dihydroxy-1-methylpropyl]-14-ethylidene-3,4,4a,9,10,11,12,13,14,18,19,20,21,27,28,32a-hexadecahydro-11,28-bis[(1R)-1-hydroxyethyl]-9,12,19,26-tetraoxo-17H,26H-8,5:18,15:25,22:32,29-tetranitrilo-5H,15H-pyrido[3,2-m][1,11,17,24,4,7,20,27]tetrathiatetraazacyclotriacontin-2-yl]-4-thiazolecarbonyl-2,3-didehydroalanyl-2,3-didehydroalanyl-L-alaninamide, (1→5<sup>28</sup>)-lactone

**Synonym:** NSC 285116  
**MF:** C<sub>71</sub>H<sub>81</sub>N<sub>19</sub>O<sub>18</sub>S<sub>5</sub>  
**FW:** 1,648.9  
**Purity:** ≥85%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥2 years  
**Item Origin:** Bacterium/*Streptomyces* sp.



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

### Laboratory Procedures

Siomycin A is supplied as a solid. A stock solution may be made by dissolving the siomycin A in the solvent of choice. Siomycin A is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas.

### Description

The mammalian transcription factor forkhead box M1 (FoxM1) is induced during G<sub>1</sub> phase, with expression continuing through S phase and mitosis. Siomycin A is a peptide thiazole antibiotic, first isolated from *S. sioyaensis*, that interacts with the 23S rRNA of bacteria.<sup>1</sup> It inhibits FoxM1 (IC<sub>50</sub> = ~5 μM), preventing the expression of FoxM1-regulated genes, which includes FoxM1 itself.<sup>2,3</sup> Through this mechanism, siomycin A prevents proliferation and induces apoptosis in certain types of stem cells as well as cancer cells.<sup>4-6</sup>

### References

1. Tori, K., Tokura, K., Yoshimura, Y., et al. *J. Antibiot. (Tokyo)* **32(10)**, 1072-1077 (1979).
2. Radhakrishnan, S.K., Bhat, U.G., Hughes, D.E., et al. *Cancer Res.* **66(19)**, 9731-9735 (2006).
3. Gartel, A.L. *Front. Oncol.* **3**, 150 (2013).
4. Nakano, I., Joshi, K., Visnyei, K., et al. *Neuro. Oncol.* **13(6)**, 622-634 (2011).
5. Joshi, K., Banasavadi-Siddegowda, Y., Mo, X., et al. *Stem Cells* **31(6)**, 1051-1063 (2013).
6. Bhat, U.G., Halasi, M., and Gartel, A.L. *PLoS One* **4(5)**, e5592 (2009).

#### 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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