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PRODUCT INFORMATION



Spiramycin

Item No. 20267

CAS Registry No.: 8025-81-8

Formal Name: 2-((4R,5S,6S,7R,9R,10R,11E,13E,16R)-6-(((2S,3R,4R,5S,6R)-5-(((2S,4R,5S,6S)-4,5-dihydroxy-4,6-dimethyltetrahydro-2H-pyran-2-yl)oxy)-4-(dimethylamino)-3-hydroxy-6-methyltetrahydro-2H-pyran-2-yl)oxy)-10-(((2R,5S,6R)-5-(dimethylamino)-6-methyltetrahydro-2H-pyran-2-yl)oxy)-4-hydroxy-5-methoxy-9,16-dimethyl-2-oxooxacyclohexadeca-11,13-dien-7-yl) acetaldehyde (Spiramycin I, R = H)

Synonyms: Formacidine, NSC 55926, Rovamycine

MF: C₄₃H₇₄N₂O₁₄ (Spiramycin I, R = H)

FW: 843.1

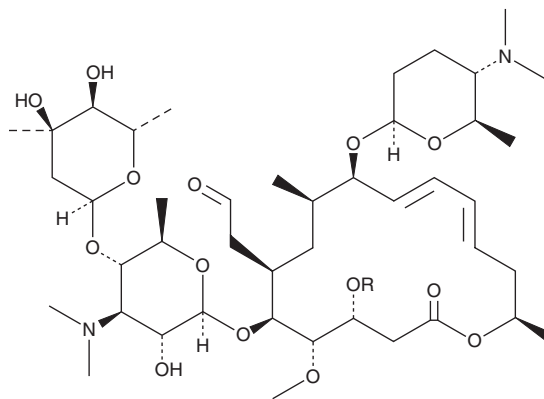
Purity: ≥90%

UV/Vis.: λ_{max}: 226, 231 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥2 years



Spiramycin I R = H
Spiramycin II R = COCH₃
Spiramycin III R = COCH₂CH₃

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

Laboratory Procedures

Spiramycin is supplied as a crystalline solid. A stock solution may be made by dissolving the spiramycin in the solvent of choice, which should be purged with an inert gas. Spiramycin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of spiramycin in ethanol is approximately 25 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Spiramycin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, spiramycin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Spiramycin has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Spiramycin is a polyketide synthase-derived macrolide antibiotic that has been found in *Streptomyces*.^{1,2} It inhibits the binding of tetrahydroleucomycin A₃ to *E. coli* ribosomes (IC₅₀ = 1 μM) and is active against *S. aureus*, *B. subtilis*, *B. cereus*, and *M. luteus* (MICs = 3.12, 1.56, 3.12, and 0.1 μg/ml, respectively).³ Spiramycin protects mice from *S. aureus*, *S. pneumoniae*, and *P. berghei* infections (ED₅₀s = 116.6, 167.9, and 27 mg/kg, respectively).^{4,5} This product is a mixture of spiramycin I, II, and III, with spiramycin I being the major component.

References

1. Wilson, D.N. *Crit. Rev. Biochem. Mol. Biol.* **44**(6), 393-433 (2009).
2. Agnoletti, F., Ferro, T., Guolo, A., et al. *Vet. Microbiol.* **136**(1-2), 188-191 (2009).
3. Sano, H., Inoue, M., and Omura, S. *J. Antibiot. (Tokyo)* **37**(7), 738-749 (1984).
4. Sano, H., Inoue, M., Yamashita, K., et al. *J. Antibiot. (Tokyo)* **36**(10), 1336-1344 (1983).
5. Chawira, A.N., Warhurst, D.C., Robinson, B.L., et al. *Trans. R. Soc. Trop. Med. Hyg.* **81**(4), 554-558 (1987).

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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