

PRODUCT INFORMATION



Novobiocin (sodium salt)

Item No. 18457

CAS Registry No.: 1476-53-5
Formal Name: N-[7-[[3-O-(aminocarbonyl)-6-deoxy-5-C-methyl-4-O-methyl- α -L-lyxo-hexopyranosyl]oxy]-4-hydroxy-8-methyl-2-oxo-2H-1-benzopyran-3-benzamide, monosodium salt
Synonym: NSC 2382

MF: C₃₁H₃₅N₂O₁₁ • Na
FW: 634.6

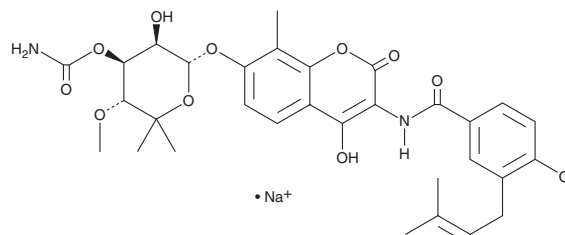
Purity: ≥95%

UV/Vis.: λ_{max} : 212, 249, 307 nm

Supplied as: A crystalline 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

Novobiocin (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the novobiocin (sodium salt) in water. The solubility of novobiocin (sodium salt) in water is approximately 100 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Novobiocin is a coumarin antibiotic, first isolated from *Streptomyces* species, that inhibits the ATPase activity of DNA gyrase.¹ Its antibacterial activity arises from competitive inhibition of the ATPase reaction catalyzed by the GyrB subunit.¹ In addition to permitting relaxation of negative supercoils, novobiocin has been used to generate positively supercoiled DNA.² It also inhibits the chaperone activity of Hsp90 (IC₅₀ = 700 mM).^{3,4}

References

1. Collin, F., Karkare, S., and Maxwell, A. Exploiting bacterial DNA gyrase as a drug target: Current state and perspectives. *Appl. Microbiol. Biotechnol.* **92(3)**, 479-497 (2011).
2. Lockshon, D. and Morris, D.R. Positively supercoiled plasmid DNA is produced by treatment of *Escherichia coli* with DNA gyrase inhibitors. *Nucleic Acids Res.* **11(10)**, 2999-3017 (1983).
3. Allan, R.K., Mok, D., Ward, B.K., et al. Modulation of chaperone function and cochaperone interaction by novobiocin in the C-terminal domain of Hsp90: Evidence that coumarin antibiotics disrupt Hsp90 dimerization. *J. Biol. Chem.* **281(11)**, 7161-7171 (2006).
4. Hall, J.A., Seedarala, S., Zhao, H., et al. Novobiocin Analogues That Inhibit the MAPK Pathway. *J. Med. Chem.* **59(3)**, 925-933 (2016).

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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