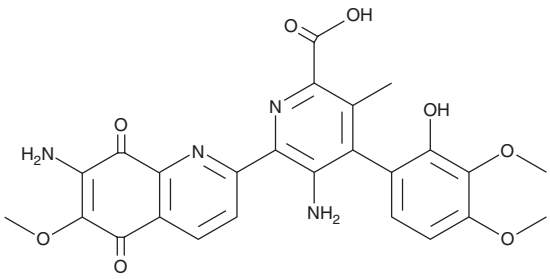
PRODUCT INFORMATION

Streptonigrin

Item No. 27952

CAS Registry No.:	3930-19-6
Formal Name:	(4R)-5-amino-6-(7-amino-5,8-dihydro-6-methoxy-5,8-dioxo-2-quinolinyl)-4-(2-hydroxy-3,4-dimethoxyphenyl)-3-methyl-2-pyridinecarboxylic acid
Synonyms:	NSC 45383, NSC 56748, NSC 83950
MF:	$C_{25}H_{22}N_4O_8$
FW:	506.5
Purity:	≥95%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Bacterium/*Streptomyces flocculus*



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

Laboratory Procedures

Streptonigrin is supplied as a solid. A stock solution may be made by dissolving the streptonigrin in the solvent of choice, which should be purged with an inert gas. The solubility of streptonigrin in chloroform:methanol (1:1) is approximately 2 mg/ml.

Description

Streptonigrin is a phenylpyridylquinoline originally isolated from *S. flocculus* with diverse biological activities.[1-6] Streptonigrin (2.5-12.5 µM) induces DNA cleavage by calf thymus topoisomerase II in a concentration-dependent manner.[1] It induces phage production in *S. typhimurium* when used at concentrations ranging from 1 to 10 µg/ml.[2] Streptonigrin (10 µg/ml) inhibits DNA synthesis in and reduces survival of *S. typhimurium* bacteria. Streptonigrin is bactericidal against *E. coli* in an iron-dependent manner, an effect that is blocked by the iron chelators deferoxamine (Item No. 14595) and orthophenanthroline.[3] Streptonigrin (40 nM) is cytotoxic to human HT-29 colon carcinoma cells but not to BE colon carcinoma cells in which NAD(P)H:quinone oxidoreductase is not expressed.[5] Streptonigrin (0.001-0.1 µg/ml) inhibits mitosis and induces chromatin breaks in human leukocytes in a concentration-dependent manner.[5] *In vivo*, streptonigrin (0.05 mg/kg, i.p.) increases the mean survival time in rats infected with Rauscher virus.[6]

References

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2. Levine, M. and Borthwick, M. *Virology* **21(4)**, 568-574 (1963).
3. Yeowell, H.N. and White, J.R. *Antimicrob. Agents Chemother.* **22(6)**, 961-968 (1982).
4. Beall, H.D., Liu, Y., Siegel, D., *et al. Biochem. Pharmacol.* **51(5)**, 645-652 (1996).
5. Cohen, M.M., Shaw, M.W., and Craig, A.P. *Proc. Natl. Acad. Sci. USA* **50(1)**, 16-24 (1963).
6. McBride, T.J., Oleson, J.J., and Woolf, D. *Cancer Res.* **26(4)**, 727-732 (1966).

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