

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-quinoliny)-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

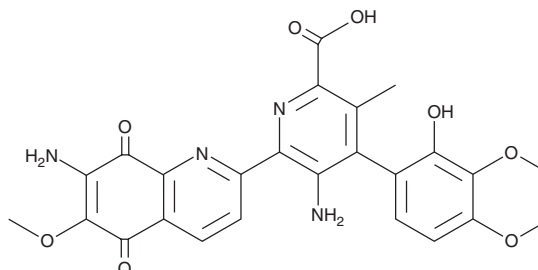
Purity: $\geq 95\%$

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 $\mu\text{g/ml}$.² Streptonigrin (10 $\mu\text{g/ml}$) 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 $\mu\text{g/ml}$) 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

1. Yamashita, Y., Kawada, S., Fujii, N., et al. *Cancer Res.* **50**(18), 5841-5844 (1990).
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).

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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