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Produktinformation



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Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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Lieferung & Zahlungsart

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- Trockeneiszuschlag
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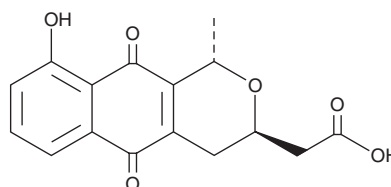
PRODUCT INFORMATION



Nanaomycin A

Item No. 9001479

CAS Registry No.: 52934-83-5
Formal Name: (1S,3R)-3,4,5,10-tetrahydro-9-hydroxy-1-methyl-5,10-dioxo-1H-naphtho[2,3-c]pyran-3-acetic acid
Synonyms: Antibiotic OS 3966A, Nanafrocin, NNM-A, NSC 267461
MF: C₁₆H₁₄O₆
FW: 302.3
Purity: ≥80%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Synthetic



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

Laboratory Procedures

Nanaomycin A is supplied as a solid. A stock solution may be made by dissolving the nanaomycin A in the solvent of choice, which should be purged with an inert gas. Nanaomycin A is soluble in the organic solvent DMSO at a concentration of approximately 10 mg/ml.

Description

Nanaomycin A is a quinone bacterial metabolite originally isolated from *Streptomyces* that has antimicrobial activity.¹ It inhibits the growth of a variety of bacteria (MICs = <0.01-1.56 µg/ml), fungi (MICs = 0.4-3.12 µg/ml), and plant pathogenic fungi (MICs = 0.4-12.5 µg/ml), as well as *P. falciparum* (IC₈₀ = 0.033 µM).^{1,2} Nanaomycin A is a selective DNA methyltransferase 3B (DNMT3B) inhibitor that inhibits proliferation of HCT116, A549, and HL-60 cancer cells (IC₅₀s = 0.4, 4.1, and 0.8 µM, respectively).³ Nanaomycin A promotes the differentiation of human induced pluripotent stem (iPS) cells into hepatoblasts at the definitive endoderm cell-to-hepatoblast stage, but not the iPS cell-to-definitive endoderm cell stage, when used at a concentration of 1 µM.⁴

References

1. Iwai, Y., Kimura, K., Takahashi, Y., *et al.* OM-173, new nanaomycin-type antibiotics produced by a strain of *Streptomyces*. Taxonomy, production, isolation and biological properties. *J. Antibiot. (Tokyo)* **36**(10), 1268-1274 (1983).
2. Tanaka, T., Kamei, K., Otoguro, K., *et al.* Heme-dependent radical generation: Possible involvement in antimalarial action of non-peroxide microbial metabolites, nanaomycin A and radicicol. *J. Antibiot. (Tokyo)* **52**(10), 880-888 (1999).
3. Kuck, D., Caulfield, T., Lyko, F., *et al.* Nanaomycin A selectively inhibits DNMT3B and reactivates silenced tumor suppressor genes in human cancer cells. *Mol. Cancer Ther.* **9**(11), 3015-3023 (2010).
4. Nakamae, S., Toba, Y., Takayama, K., *et al.* Nanaomycin A treatment promotes hepatoblast differentiation from human induced pluripotent stem cells. *Stem Cells Dev.* **27**(6), 405-414 (2018).

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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