

[Open Peer Review on Qeios](#)

Nanafrocin

National Cancer Institute

Source

National Cancer Institute. *Nanafrocin*. NCI Thesaurus. Code C72594.

A quinone antibiotic isolated from *Streptomyces rosa* var. *notoensis* with activity against gram-positive bacteria, mycoplasmas and fungi. Within an organism, nanaomycin A is first reduced by flavin or NADH dehydrogenase then rapidly autooxidized leading to the production of singlet molecular oxygen (O_2^-). The increase in intracellular O_2^- results in inhibition of DNA, RNA and cell-wall peptidoglycan synthesis. Further, nanaomycin A may have antineoplastic properties resulting from a reduction in DNA methylation by inhibiting DNA methyltransferase 3B (DNMT3B) and reactivating the tumor suppressor gene RASSF1A.