

PRODUCT INFORMATION



Netropsin (hydrochloride)

Item No. 33727

CAS Registry No.: 18133-22-7

Formal Name: 4-[[2-[(aminoiminomethyl)amino]acetyl]amino]-N-[5-[[[(3-amino-3-iminopropyl)amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]-1-methyl-1H-pyrrole-2-carboxamide, dihydrochloride

Synonyms: Congocidine, Sinanomycin

MF: $C_{18}H_{26}N_{10}O_3 \cdot 2HCl$

FW: 503.4

Purity: $\geq 95\%$

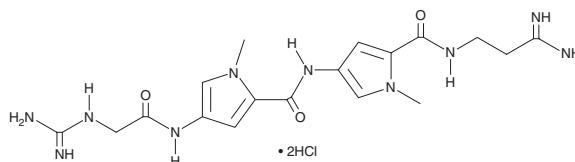
Supplied as: A solid

Storage: $-20^{\circ}C$

Stability: ≥ 4 years

Item Origin: Bacterium/*Streptomyces netropsis*

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



Laboratory Procedures

Netropsin (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the netropsin (hydrochloride) in water. We do not recommend storing the aqueous solution for more than one day.

Description

Netropsin is a DNA minor groove binder originally isolated from *S. netropsis*.^{1,2} It binds to A/T rich regions of DNA ($K_a = 4.9 \times 10^5 M^{-1}$ for poly(dA)poly(dT) DNA).³ Netropsin inhibits topoisomerase II ($IC_{90} = 200 \mu M$ in a cell-free assay) and teniposide-induced crosslinks in nuclei from 935.1 mouse fibrosarcoma cells ($IC_{50} = 65 \mu M$).⁴ It is active against several bacteria, including *S. aureus*, *S. typhosa*, *K. pneumoniae*, and *A. aerogenes* with MIC values of 5, 10, 10, and 5 $\mu g/ml$, respectively.² Netropsin (75 $\mu g/ml$) inhibits viral plaque formation in Shope fibroma virus- or vaccinia virus-infected BS-C-1 host cells.⁵ It increases survival in a mouse model of endotoxemia induced by LPS when administered at a dose of 25 mg/kg.⁶

References

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2. Finlay, A.C., Hochstein, F.A., Sobin, B.A., et al. Netropsin, a new antibiotic produced by a *Streptomyces*. *J. Am. Chem. Soc.* **73**(1), 341-343 (1951).
3. Wartell, R.M., Larson, J.E., and Wells, R.D. Netropsin. A specific probe for A-T regions of duplex deoxyribonucleic acid. *J. Biol. Chem.* **249**(21), 6719-6731 (1974).
4. Beerman, T.A., Woynarowski, J.M., Sigmund, R.D., et al. Netropsin and bis-netropsin analogs as inhibitors of the catalytic activity of mammalian DNA topoisomerase II and topoisomerase cleavable complexes. *Biochim. Biophys. Acta* **1090**(1), 52-60 (1991).
5. Becker, Y., Asher, Y., and Zakay-Rones, Z. Congocidine and distamycin A, antipoxvirus antibiotics. *Antimicrob. Agents Chemother.* **1**(6), 483-488 (1972).
6. Grant, M.A., Baron, R.M., Macias, A.A., et al. Netropsin improves survival from endotoxaemia by disrupting HMGA1 binding to the NOS2 promoter. *Biochem. J.* **418**(1), 103-112 (2009).

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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