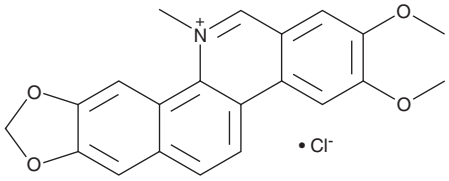
PRODUCT INFORMATION

Nitidine (chloride)

Item No. 29223

CAS Registry No.:	13063-04-2
Formal Name:	2,3-dimethoxy-12-methyl-[1,3]benzodioxolo[5,6-c]phenanthridinium, monochloride
Synonym:	NSC 146397
MF:	$C_{21}H_{18}NO_4$ • Cl
FW:	383.8
Purity:	≥98%
UV/Vis.:	λ_{max}: 221, 236, 271, 293, 329, 384 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/*Zanthoxylum nitidum*



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

Laboratory Procedures

Nitidine (chloride) is supplied as a solid. A stock solution may be made by dissolving the nitidine (chloride) in the solvent of choice, which should be purged with an inert gas. Nitidine (chloride) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of nitidine (chloride) in these solvents is approximately 0.5 and 0.25 mg/ml, respectively.

Description

Nitidine is an alkaloid originally isolated from *Z. nitidium* that has antimalarial, anti-inflammatory, and anticancer activities.[1-5] It is active against the F32 chloroquine-sensitive and FcB1 and FcM2 chloroquine-resistant strains of *P. falciparum* (IC_{50}s = 0.52, 0.8, and 0.49 µM, respectively) and reduces parasitemia in a mouse model of *P. vinckei* infection with an ED_{50} value of 18.9 mg/kg per day.[1] It decreases LPS-induced increases in TNF-α, IL-1β, and IL-6 levels and p65 nuclear translocation in RAW 264.7 cells when used at a concentration of 5 µM.[3] Nitidine (5 mg/kg) decreases serum levels of IL-10, TNF-α, and IL-6 and reduces mortality in a mouse model of LPS-induced endotoxemia.[4] It inhibits proliferation of B16 melanoma, MCF-7 and Hs 578T breast, and DU145 and MPC3 prostate cancer cells with IC_{50} values ranging from 2.65 to 370 ng/ml.[2] Nitidine (0.1-10 µM) induces apoptosis and decreases STAT3 phosphorylation in HSC-3 and HSC-4 oral cancer cells, as well as reduces tumor growth in an HSC-3 mouse xenograft model when administered at a dose of 10 mg/kg per day for 24 days.[5]

References

1. Bouquet, J., Rivaud, M., Chevalley, S., *et al. Malar. J.* **11**, 67 (2012).
2. Del Poeta, M., Chen, S.-F., Von Hoff, D., *et al. Antimicrob. Agents Chemother.* **43(12)**, 2862-2868 (1999).
3. Wang, Z., Jiang, W., Zhang, Z., *et al. J. Ethnopharmacol.* **144(1)**, 145-150 (2012).
4. Yang, N., Yue, R., Ma, J., *et al. Pharmacol. Res.* **148**, 104368 (2019).
5. Kim, L.-H., Khadka, S., Shin, J.-A., *et al. Oncotarget* **8(53)**, 91306-91315 (2017).

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