

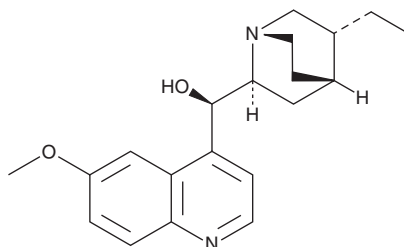
PRODUCT INFORMATION



Hydroquinine

Item No. 46277

CAS Registry No.: 522-66-7
Formal Name: (8 α ,9R)-10,11-dihydro-6'-methoxy-cinchonan-9-ol
Synonyms: Dihydroquinine, NSC 41799
MF: C₂₀H₂₆N₂O₂
FW: 326.4
Purity: $\geq$ 98%
Supplied as: A solid
Storage: -20°C
Stability: $\geq$ 4 years



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

Laboratory Procedures

Hydroquinine is supplied as a solid. A stock solution may be made by dissolving the hydroquinine in the solvent of choice, which should be purged with an inert gas. Hydroquinine is soluble ($\geq$ 10 mg/ml) in ethanol. Hydroquinine is sparingly soluble (1-10 mg/ml) in DMSO.

Description

Hydroquinine is a cinchona alkaloid that has been found in *Cinchona* bark and has diverse biological activities.¹⁻⁴ It is active against clinical isolates of multidrug-resistant *P. aeruginosa* (MICs = 2.5 mg/ml for all) and *P. knowlesi*.^{2,3} Hydroquinine inhibits potassium currents in *Xenopus* oocytes expressing the human sodium-activated potassium channel K_{Na}1.1 (IC₅₀ = 93.9 μ M) in an inside-out patch-clamp assay and decreases seizure severity in a mouse model of spontaneous epilepsy induced by mutant *KCNT1*, the gene encoding K_{Na}1.1.⁴ It has been used as a building block in the synthesis of polymers for the delivery of plasmid DNA *in vitro*.⁵ Formulations containing hydroquinine have been used in the treatment of muscle cramps.

References

1. Murauer, A. and Ganzera, M. Quantitative determination of major alkaloids in *Cinchona* bark by supercritical fluid chromatography. *J. Chromatogr. A* **1554**, 117-122 (2018).
2. Weawsiangsang, S., Rattanachak, N., Jongjitvimol, T., et al. Hydroquinine inhibits the growth of multidrug-resistant *Pseudomonas aeruginosa* via the suppression of the arginine deiminase pathway genes. *Int. J. Mol. Sci.* **24(18)**, 13914 (2023).
3. Polet, H. and Barr, C.F. Chloroquine and dihydroquinine. In vitro studies of their antimalarial effect upon *Plasmodium knowlesi*. *J. Pharmacol. Exp. Ther.* **164(2)**, 380-386 (1968).
4. Guo, Q., Gan, J., Wang, E., et al. Electrophysiological characterization of human KCNT1 channel modulators and the therapeutic potential of hydroquinine and tipepidine in KCNT1 mutation-associated epilepsy mouse model. *Acta Pharmacol. Sin.* **46(5)**, 1190-1204 (2025).
5. Roy, P., Kreofsky, N.W., Brown, M.E., et al. Enhancing pDNA delivery with hydroquinine polymers by modulating structure and composition. *JACS Au*. **3(7)**, 1876-1889 (2023).

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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