

PRODUCT INFORMATION



Quinacrine (hydrochloride hydrate)

Item No. 15041

Formal Name: N⁴-(6-chloro-2-methoxyacridin-9-yl)-N¹,N¹-diethylpentane-1,4-diamine, dihydrochloride hydrate

Synonyms: Atebrine, Mepacrine

MF: C₂₃H₃₀ClN₃O • 2HCl [XH₂O]

FW: 472.9

Purity: ≥95%

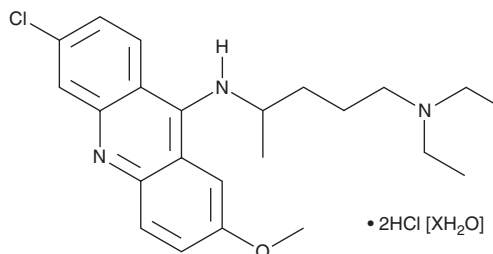
UV/Vis.: λ_{max}: 223, 283, 346, 427, 449 nm

Ex./Em. Max: 436/525 nm (DNA and RNA);
458/470-580 nm (acidic vesicles/lysosomes)

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥4 years



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

Laboratory Procedures

Quinacrine (hydrochloride hydrate) is supplied as a crystalline solid. A stock solution may be made by dissolving the quinacrine (hydrochloride hydrate) in the solvent of choice. Quinacrine (hydrochloride hydrate) is soluble in organic solvents such as ethanol and DMSO, which should be purged with an inert gas. The solubility of quinacrine (hydrochloride hydrate) in these solvents is approximately 30 and 5 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of quinacrine (hydrochloride hydrate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of quinacrine (hydrochloride hydrate) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Quinacrine is an acridine compound with diverse biological activities that has also been used as a stain for DNA and RNA in fixed cells and for fluorescent tracking of acidic vesicles, such as lysosomes, in live cells.¹⁻⁴ It has anti-protozoal properties, potently prevents misfolding of prion protein (EC₅₀ = 0.3 μM), blocks voltage-dependent sodium channels (IC₅₀ = 3.3 μM), and inhibits aldehyde oxidase (IC₅₀ = 3.3 μM).¹⁻⁴ Quinacrine is also an effective riboflavin antagonist, associating with the riboflavin-binding protein (K_i = 6.7 μM), and an inhibitor of P-glycoprotein (EC₅₀ = 14.4 μM).^{5,6} At much higher doses, quinacrine inhibits phospholipase A₂ activity.^{7,8} Quinacrine binds to nucleic acids and has been used in fixed cells to stain DNA and RNA with excitation/emission maxima of 436/525 nm, respectively.⁹ In live cells, it is taken up into acidic vesicles, such as lysosomes, and can be used to for long-term imaging with an excitation of 458 nm and emission in the 470-580 nm range.¹⁰

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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References

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