

Certificate of Analysis

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Product Name: Chloroquine diphosphate

Catalog No.: 4109

Batch No.: 3

CAS Number: 50-63-5

EC Number: 200-055-2

IUPAC Name: *N*⁴-(7-Chloro-4-quinolinyl)-*N*¹,*N*¹-dimethyl-1,4-pentanediamine diphosphate salt

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₈H₂₆ClN₃·2H₃PO₄.

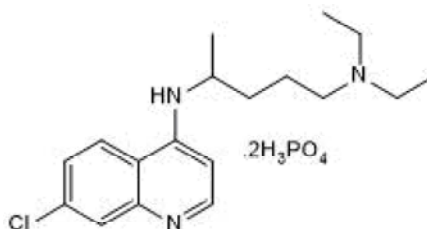
Batch Molecular Weight: 515.86

Physical Appearance: White solid

Solubility: water to 100 mM

Storage: Desiccate at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.7% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon Hydrogen Nitrogen		
Theoretical	41.91	6.25	8.15
Found	41.66	6.36	8.12

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Chloroquine diphosphate is an antimalarial drug. Inhibits cell growth and induces cell death in numerous cancer cell lines; inhibits cell proliferation and viability and induces apoptosis in 4T1 mouse breast cancer cells in vitro. Exhibits antimetastatic activity. Also inhibits autophagy via a mechanism distinct from that of 3-methyladenine (Cat. No. 3977). Blocks receptor-mediated endocytosis of mannose-glycoconjugates by macrophages. Inhibits SARS-CoV-2 infection in vitro (EC₅₀ = 1.13 μM). Tocris products are for biomedical research use only. They are not intended for human or veterinary use. Please see product specific page on www.tocris.com for full description.

Physical and Chemical Properties:

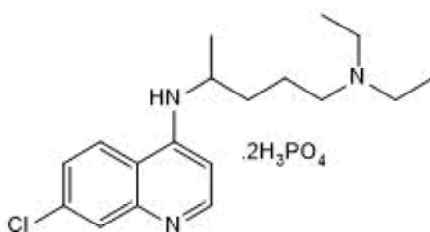
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Batch Molecular Weight: 515.86

Physical Appearance: White solid

Minimum Purity: ≥99%

Batch Molecular Structure:



References:

Wang et al (2020) Remdesivir and chloroquine effectively inhibit the recently emerged novel coronavirus (2019-nCoV) *in vitro*. Cell Research **30**.

Jiang et al (2010) Antitumor and antimetastatic activities of chloroquine diphosphate in a murine model of breast cancer. Biomed.Pharmacother. **64** 609. PMID: 20888174.

Sasaki et al (2010) Chloroquine potentiates the anti-cancer effect of 5-fluorouracil on colon cancer cells. BMC Cancer **10** 370. PMID: 20630104.

Storage: Desiccate at RT

Solubility & Usage Info:

water to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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