

Datasheet

BSV-S4157

Product Name	Chloroquine diphosphate
Catalogue Number	BSV-S4157
Chemical Formula	C ₁₈ H ₂₆ ClN ₃ .2H ₃ O ₄ P
Function	ATM activator
CAS No.:	50-63-5

Description:

Chloroquine diphosphate is a 4-aminoquinoline anti-malarial and anti-rheumatoid agent, also acting as an **ATM** activator.

Product Details:

Target: ATM (cell-free-assay)

Chemical name: 1,4-Pentanediamine, N4-(7-chloro-4-quinolinyl)-N1,N1-diethyl-, phosphate (1:2)

Formula: C₁₈H₂₆ClN₃.2H₃O₄P

Molecular weight: 515.86

Purity: 99.65 % (HPLC)

Solubility: 100 mg/mL (water)

Storage: 3 years -20°C powder, 2 years -80°C in solvent

Regulatory/ Restrictions: For laboratory use only.

Preparing stock solutions

Concentration/Mass	1 mg	5 mg	10 mg
1 mM	1.9385 mL	9.6926 mL	19.3851 mL
5 mM	0.3877 mL	1.9385 mL	3.8770 mL
10 mM	0.1939 mL	0.9693 mL	1.9385 mL
50 mM	0.0388 mL	0.1939 mL	0.3877 mL

Biological Activity:

In vitro:

Chloroquine is a chemotherapeutic agent for the clinical treatment of malaria. Chloroquine is able to bind to DNA, and inhibit DNA replication and RNA synthesis which in turn results in cell death. The effect of Chloroquine may also be related to the formation of a toxic heme-Chloroquine complex. Chloroquine inhibits trophozoite hemoglobin degradation through increasing vacuolar pH and inhibiting the activity of vacuolar phospholipase, vacuolar proteases, and heme polymerase^[1]. Chloroquine possesses definite antirheumatic properties. Chloroquine has immuno-modulatory effects, suppressing the production/release of tumour necrosis factor and interleukin 6. Moreover, Chloroquine exerts direct antiviral effects, inhibiting pH-dependent steps of the replication of several viruses including members of the flaviviruses, retroviruses, and coronaviruses. Its best-studied effects are those against HIV replication^[2]. Chloroquine can accumulate inside the macrophage phagolysosome by ion trapping where it exerts potent antifungal activity against *Histoplasma capsulatum* and *Cryptococcus neoformans* by distinct mechanisms. Chloroquine inhibits growth of *H. capsulatum* by pH-dependent iron deprivation, whereas it is directly toxic to *C. neoformans*^[3].

References:

- [1] Slater AF. *Pharmacol Ther*, 1993, 57(2-3), 203-235.
 [2] Savarino A, et al. *Lancet Infect Dis*, 2003, 3(11), 722-727.
 [3] Weber SM, et al. *Curr Opin Microbiol*, 2000, 3(4), 349-353.