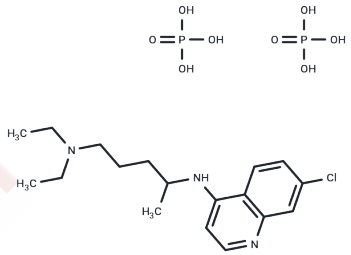
Data Sheet (Cat.No.T0194)

TargetMol

Chloroquine phosphate

Chemical Properties



CAS No. : 50-63-5

Formula: C18H26CLN3·2(H3PO4)

Molecular Weight: 515.87

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Chloroquine phosphate (Aralen phosphate) is an aminoquinoline antimalarial and also is widely used as an autophagy inhibitor. Chloroquine also is an inhibitor of toll-like receptors (TLRs).
Targets(IC50)	HIV Protease,Antibiotic,Parasite,Autophagy,SARS-CoV,TLR
In vitro	Chloroquine (20 μM) inhibits IL-12p70 release and reduces Th1-priming capacity of activated human monocyte-derived Langerhans-like cells (MoLC). Chloroquine (20 μM) enhances IL-1-induced IL-23 secretion in MoLC and subsequently increases IL-17A release by primed CD4+ T cells [1]. Chloroquine (25 μM) suppresses MMP-9 mRNA expression in normoxia and hypoxia in parental MDA-MB-231 cells. Chloroquine has cell-, dose- and hypoxia-dependent effects on MMP-2, MMP-9 and MMP-13 mRNA expression [2]. TLR7 and TLR9 inhibition using chloroquine significantly reduce HuH7 cell proliferation in vitro [3].
In vivo	Chloroquine (80 mg/kg, i.p.) fails to inhibit the proliferation of triple-negative MDA-MB-231 cells regardless of their high or low TLR9 expression levels in the orthotopic mouse model [2]. However, chloroquine's suppression of TLR7 and TLR9 significantly reduces tumor growth in the mouse xenograft model, and it likewise markedly impedes HCC development in the DEN/NMOR rat model [3].
Cell Research	The cells are cultured in 6-well plates with normal culture medium in the presence of vehicle or 25 or 50 μM chloroquine, until near confluency, after which they are rinsed with sterile phosphate-buffered saline (PBS) and cultured further for the indicated times in serum-free culture medium. At the desired time-points, the culture medium is discarded and the cells are quickly harvested in lysis buffer and clarified by centrifugation. Subsequent to boiling the supernatants in reducing sodium dodecyl sulfate (SDS) sample buffer, equal amounts of protein (100 μg) are loaded per lane and the samples are electrophoresed into 10 or 4-20% gradient polyacrylamide SDS gels, then transferred to a nitrocellulose membrane. To detect TLR9, the blots were incubated overnight at 4°C with anti-TLR9 antibodies, diluted 1:500 in Tris-buffered saline with 0.1% (v/v) Tween-20 (TBST). Equal loading is confirmed with polyclonal rabbit anti-actin. Secondary detection is performed with horseradish peroxidase-linked secondary antibodies. The protein bands are visualized by chemiluminescence using an ECL kit [2].
Animal Research	Control and TLR9 siRNA MDA-MB-231 cells (5×105 cells in 100 μL) are inoculated into the mammary fat pads of four-week-old, immune-deficient mice (athymic nude/nu Foxn1). Treatments are started seven days after tumor cell inoculation. The mice are treated

Animal Research	daily either with intraperitoneal (i.p.) chloroquine (80 mg/kg) or vehicle (PBS). The animals are monitored daily for clinical signs. Tumor measurements are performed twice a week and tumor volume is calculated according to the formula V=(π/6) (d1×d2) 3/2, where d1 and d2 are perpendicular tumor diameters. The tumors are allowed to grow for 22 days, at which point the mice are sacrificed and the tumors are dissected for a final measurement. Throughout the experiments, the animals are maintained under controlled pathogen-free environmental conditions (20-21°C, 30-60% relative humidity and a 12-h lighting cycle). The mice are fed with small-animal food pellets and supplied with sterile water ad libitum [2].

Solubility Information

Solubility	DMSO: Insoluble, H2O: 65.625 mg/mL (127.21 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.9385 mL	9.6924 mL	19.3847 mL
5 mM	0.3877 mL	1.9385 mL	3.8769 mL
10 mM	0.1938 mL	0.9692 mL	1.9385 mL
50 mM	0.0388 mL	0.1938 mL	0.3877 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

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