



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

Weitere Information auf den folgenden Seiten!  
See the following pages for more information!



### Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

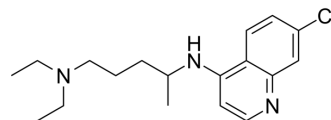
[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

## Chloroquine

Cat. No.:	HY-17589A
CAS No.:	54-05-7
Molecular Formula:	C <sub>18</sub> H <sub>26</sub> ClN <sub>3</sub>
Molecular Weight:	319.87
Target:	SARS-CoV; HIV; Toll-like Receptor (TLR); Autophagy; Parasite; Antibiotic
Pathway:	Anti-infection; Immunology/Inflammation; Autophagy
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



### SOLVENT & SOLUBILITY

#### In Vitro

Ethanol : 100 mg/mL (312.63 mM; Need ultrasonic)  
DMSO : 50 mg/mL (156.31 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	3.1263 mL	15.6314 mL	31.2627 mL
	5 mM	0.6253 mL	3.1263 mL	6.2525 mL
	10 mM	0.3126 mL	1.5631 mL	3.1263 mL

Please refer to the solubility information to select the appropriate solvent.

#### In Vivo

- Add each solvent one by one: 50% PEG300 >> 50% saline  
Solubility: 10 mg/mL (31.26 mM); Suspended solution; Need ultrasonic and warming and heat to 44°C
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.5 mg/mL (7.82 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.5 mg/mL (7.82 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.5 mg/mL (7.82 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Chloroquine is an antimalarial and anti-inflammatory agent widely used to treat malaria and rheumatoid arthritis. Chloroquine is an autophagy and toll-like receptors (TLRs) inhibitor. Chloroquine is highly effective in the control of SARS-CoV-2 (COVID-19) infection in vitro (EC<sub>50</sub>=1.13 μM)<sup>[1][2][3][4]</sup>.

#### IC<sub>50</sub> & Target

Plasmodium	Malaria	TLRs	SARS-COV-2
------------	---------	------	------------

	HIV-1
<b>In Vitro</b>	<p>Chloroquine (CHQ, 20 <math>\mu</math>M) inhibits IL-12p70 release and reduces Th1-priming capacity of activated human monocyte-derived Langerhans-like cells (MoLC).</p> <p>Chloroquine (20 <math>\mu</math>M) enhances IL-1-induced IL-23 secretion in MoLC and subsequently increases IL-17A release by primed CD4<sup>+</sup> T cells<sup>[1]</sup>.</p> <p>Chloroquine (25 <math>\mu</math>M) 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<sup>[2]</sup>.</p> <p>TLR7 and TLR9 inhibition using IRS-954 or chloroquine significantly reduces HuH7 cell proliferation in vitro<sup>[3]</sup>.</p> <p>Chloroquine (0.01-100 <math>\mu</math>M; 48 hours) potently blocked virus infection (vero E6 cells infected with SARS-CoV-2) at low-micromolar concentration (<math>EC_{50}</math>=1.13 <math>\mu</math>M).</p> <p>Chloroquine blocks virus infection by increasing endosomal pH required for virus/cell fusion, as well as interfering with the glycosylation of cellular receptors of SARS-CoV<sup>[4]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
<b>In Vivo</b>	<p>Chloroquine (80 mg/kg, i.p.) does not prevent the growth of the triple-negative MDA-MB-231 cells with high or low TLR9 expression levels in the orthotopic mouse model<sup>[2]</sup>.</p> <p>TLR7 and TLR9 inhibition using IRS-954 or chloroquine significantly inhibits tumour growth in the mouse xenograft model. HCC development in the DEN/NMOR rat model is also significantly inhibited by Chloroquine<sup>[3]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

## CUSTOMER VALIDATION

- Nature. 2023 Jun;618(7966):799-807.
- Nature. 2022 Dec;612(7941):725-731.
- Nat Biotechnol. 2022 Dec;40(12):1834-1844.
- Cell Res. 2023 Jul 17.
- Mol Cancer. 2019 Apr 10;18(1):85.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## REFERENCES

- [1]. Said A, et al. Chloroquine promotes IL-17 production by CD4<sup>+</sup> T cells via p38-dependent IL-23 release by monocyte-derived Langerhans-like cells. *J Immunol*. 2014 Dec 15;193(12):6135-43.
- [2]. Tuomela J, et al. Chloroquine has tumor-inhibitory and tumor-promoting effects in triple-negative breast cancer. *Oncol Lett*. 2013 Dec;6(6):1665-1672.
- [3]. Mohamed FE, et al. Effect of toll-like receptor 7 and 9 targeted therapy to prevent the development of hepatocellular carcinoma. *Liver Int*. 2014 Jul 2. doi: 10.1111/liv.12626.
- [4]. Colson P, et al. Chloroquine and hydroxychloroquine as available weapons to fight COVID-19. *Int J Antimicrob Agents*. 2020;55(4):105932.
- [5]. Savarino A, et al. The anti-HIV-1 activity of chloroquine. *J Clin Virol*. 2001;20(3):131-135.

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA