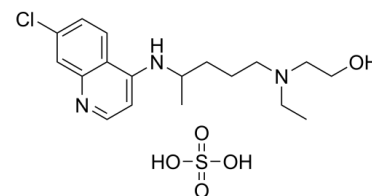


## Data Sheet

<b>Product Name:</b>	Hydroxychloroquine (sulfate)
<b>Cat. No.:</b>	CS-8017
<b>CAS No.:</b>	747-36-4
<b>Molecular Formula:</b>	C <sub>18</sub> H <sub>28</sub> ClN <sub>3</sub> O <sub>5</sub> S
<b>Molecular Weight:</b>	433.95
<b>Target:</b>	Autophagy; Parasite; SARS-CoV; Toll-like Receptor (TLR)
<b>Pathway:</b>	Anti-infection; Autophagy; Immunology/Inflammation
<b>Solubility:</b>	DMSO : 100 mg/mL (ultrasonic); H <sub>2</sub> O : 110 mg/mL (ultrasonic;warming)



### BIOLOGICAL ACTIVITY:

Hydroxychloroquine sulfate (HCQ sulfate) is a synthetic **antimalarial** agent which can also inhibit **Toll-like receptor 7/9 (TLR7/9)** signaling. Hydroxychloroquine sulfate efficiently inhibits **SARS-CoV-2** infection in vitro<sup>[1][2][3]</sup>. IC50 & Target: Antimalarial<sup>[1]</sup>, TLR7/9<sup>[2]</sup> *In Vitro*: Hydroxychloroquine sulfate is a synthetic antimalarial drug derived from 4-aminoquinoline; it has been used for several decades for the treatment of some rheumatic diseases such as rheumatoid arthritis (RA)<sup>[1]</sup>. Five micromolar Hydroxychloroquine sulfate or chloroquine also has no measurable effect on intracellular pH, although these concentrations can inhibit TLR9 or 7 signaling induced by DNA or RNA ligands<sup>[2]</sup>. *In Vivo*: Hydroxychloroquine sulfate is prescribed for the treatment of lupus, and both Hydroxychloroquine sulfate and its analog chloroquine inhibit TLR7 and 9 signaling<sup>[2]</sup>.

### PROTOCOL (Extracted from published papers and Only for reference)

**Animal Administration:** <sup>[2]</sup>MRL/lpr mice are dosed orally five times a week with 20 or 60 mg/kg E6446 or 60 mg/kg Hydroxychloroquine sulfate beginning at 5 weeks of age. CB 4564 is administered at 50 mg/kg i.p. every 10 days. A serum sample is taken immediately before the beginning of treatment to monitor changes in autoreactive antibodies. Subsequently, serum samples are collected approximately monthly and analyzed for anti-dsDNA by ELISA after 1:500 dilution. Body weights and urine samples are taken at the same interval, and proteinuria is assessed. Anti-nuclear antibodies (ANA) are assessed using commercially available HEp2 slide kits, with serum diluted to 1:100 in kit buffer. ANA scores are read blinded<sup>[2]</sup>.

### References:

- [1]. Manzo C, et al. Psychomotor Agitation Following Treatment with Hydroxychloroquine. Drug Saf Case Rep. 2017 Dec;4(1):6.
- [2]. Lamphier M, et al. Novel small molecule inhibitors of TLR7 and TLR9: mechanism of action and efficacy in vivo. Mol Pharmacol. 2014 Mar;85(3):429-40.
- [3]. Yao X, et al. In Vitro Antiviral Activity and Projection of Optimized Dosing Design of Hydroxychloroquine for the Treatment of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). Clin Infect Dis. 2020 Mar 9. pii: ciaa237.

### CAIndexNames:

Ethanol, 2-[[4-[(7-chloro-4-quinolinyl)amino]pentyl]ethylamino]-, sulfate (1:1)

### SMILES:

CCN(CCO)CCCC(NC1=CC=NC2=CC(Cl)=CC=C12)C.O=S(O)(O)=O

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

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