

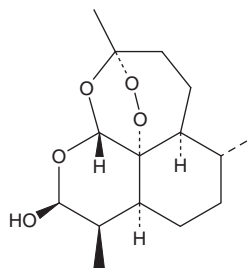
# PRODUCT INFORMATION



## Dihydroartemisinin

Item No. 19846

**CAS Registry No.:** 71939-50-9  
**Formal Name:** (3R,5aS,6R,8aS,9R,10S,12R,12aR)-decahydro-3,6,9-trimethyl-3,12-epoxy-12H-pyrano[4,3-j]-1,2-benzodioxepin-10-ol  
**Synonyms:** DHQHS 2, Dihydroqinghaosu  
**MF:** C<sub>15</sub>H<sub>24</sub>O<sub>5</sub>  
**FW:** 284.4  
**Purity:** ≥98%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Dihydroartemisinin is supplied as a crystalline solid. A stock solution may be made by dissolving the dihydroartemisinin in the solvent of choice, which should be purged with an inert gas. Dihydroartemisinin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of dihydroartemisinin in these solvents is approximately 16, 10, and 20 mg/ml, respectively.

Dihydroartemisinin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, dihydroartemisinin should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Dihydroartemisinin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Dihydroartemisinin is an active metabolite of the antimalarial agent artemisinin (Item No. 11816).<sup>1</sup> It decreases survival of clinical isolates of *P. falciparum* when used at a concentration of 8.1 nM.<sup>2</sup> Dihydroartemisinin (10, 20, and 40 μM) induces lipid peroxidation mediated by 15-lipoxygenase (15-LO) and ferroptosis in HepG2 and Huh7 hepatocellular carcinoma cells.<sup>3</sup> *In vivo*, dihydroartemisinin (25 or 50 mg/kg) reduces skin lesion formation and inflammation in a mouse model of psoriasis induced by imiquimod (Item No. 14956).<sup>4</sup>

### References

1. Dai, X., Zhang, X.C., W., Chen, Y., *et al.* Dihydroartemisinin: A potential natural anticancer drug. *Int. J. Biol. Sci.* **17(2)**, 603-622 (2021).
2. Mbye, H., Bojang, F., Jawara, A.S., *et al.* Tolerance of gambian *Plasmodium falciparum* to dihydroartemisinin and lumefantrine detected by *ex vivo* parasite survival rate assay. *Antimicrob. Agents Chemother.* **65(1)**, e00720-20 (2020).
3. Su, Y., Zhao, D., Jin, C., *et al.* Dihydroartemisinin induces ferroptosis in HCC by promoting the formation of PEBP1/15-LO. *Oxid. Med. Cell. Longev.* 3456725 (2021).
4. Chen, Y., Yan, Y., Liu, H., *et al.* Dihydroartemisinin ameliorates psoriatic skin inflammation and its relapse by diminishing CD8<sup>+</sup> T-cell memory in wild-type and humanized mice. *Theranostics* **10(23)**, 10466-10482 (2020).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM