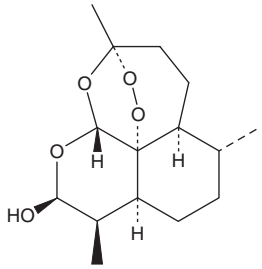
PRODUCT INFORMATION

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: $C_{15}H_{24}O_5$
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).[1] It decreases survival of clinical isolates of *P. falciparum* when used at a concentration of 8.1 nM.[2] Dihydroartemisinin (10, 20, and 40 µM) induces lipid peroxidation mediated by 15-lipoxygenase (15-LO) and ferroptosis in HepG2 and Huh7 hepatocellular carcinoma cells.[3] *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).[4]

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 $CD8^+$ T-cell memory in wild-type and humanized mice. *Theranostics* **10(23)**, 10466-10482 (2020).

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