

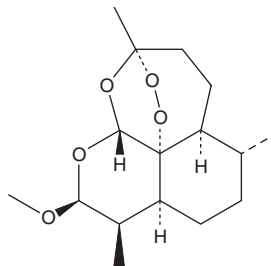
# PRODUCT INFORMATION



## Artemether

Item No. 11815

**CAS Registry No.:** 71963-77-4  
**Formal Name:** (3R,5aS,6R,8aS,9R,10S,12R,12aR)-decahydro-10-methoxy-3,6,9-trimethyl-3,12-epoxy-12H-pyrano[4,3-j]-1,2-benzodioxepin  
**Synonyms:** (+)-Artemether, SM-224  
**MF:** C<sub>16</sub>H<sub>26</sub>O<sub>5</sub>  
**FW:** 298.4  
**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

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

Artemether is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, artemether should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Artemether 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

Artemether is an antiparasitic compound and a derivative of artemisinin (Item No. 11816).<sup>1</sup> It induces mortality in adult wild-type and *pfatp6*-mutant *P. falciparum* but the efficacy is decreased in the mutants (IC<sub>50</sub>s = 8.2 and 13.5 nM, respectively).<sup>2</sup> Artemether reduces parasitemia in *P. falciparum*-infected monkeys and *P. berghei*-infected mice with 50% curative dose (CD<sub>50</sub>) values of 7.1 and 55 mg/kg, respectively.<sup>3</sup> It also reduces the worm burden of *S. mansoni* trematodes in mice when used at doses ranging from 200 to 500 mg/kg.<sup>1</sup> Formulations containing artemether have been used in the treatment of malaria.

### References

1. Xiao, S.H. and Catto, B.A. In vitro and in vivo studies of the effect of artemether on *Schistosoma mansoni*. *Antimicrob. Agents Chemother.* **33**(9), 1557-1562 (1989).
2. Pillai, D.R., Lau, R., Khairnar, K., et al. Artemether resistance *in vitro* is linked to mutations in PfATP6 that also interact with mutations in PfMDR1 in travellers returning with *Plasmodium falciparum* infections. *Malar. J.* **11**, 131 (2012).
3. Shmuklarsky, M.J., Klayman, D.L., Milhous, W.K., et al. Comparison of β-artemether and β-arteether against malaria parasites *in vitro* and *in vivo*. *Am. J. Trop. Med. Hyg.* **48**(3), 377-384 (1993).

#### 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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