

Certificate of Analysis

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Product Name: Artemether

Catalog No.: 6818

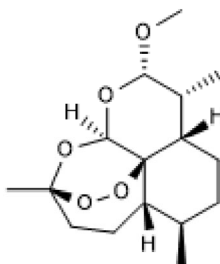
Batch No.: 3

CAS Number: 71963-77-4

IUPAC Name: (3*R*,5*aS*,6*R*,8*aS*,9*R*,10*S*,12*R*,12*aR*)-Decahydro-10-methoxy-3,6,9-trimethyl-3,12-epoxy-12*H*-pyrano[4,3-*j*]-1,2-benzodioxepin

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₆H₂₆O₅.
Batch Molecular Weight: 298.37
Physical Appearance: White solid
Solubility: DMSO to 100 mM
 ethanol to 100 mM
Storage: Store at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 97.1% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Optical Rotation: [α]_D = +153.7 (Concentration = 0.5, Solvent = Methanol)
Microanalysis:

	Carbon Hydrogen Nitrogen		
Theoretical	64.41	8.78	0
Found	64.85	8.88	0

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Artemether is an antimalarial. Prevents cerebral malaria in *Plasmodium berghei* infected mice. Exhibits synergistic effects with Methylene Blue (Cat. No. 3213) against *P. falciparum* in vitro. Inhibits neuroinflammation in neuronal/microglial cell co-cultures via induction of Nrf2 expression.

Physical and Chemical Properties:

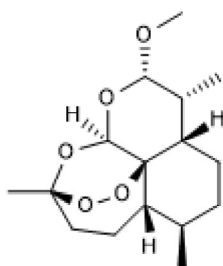
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Batch Molecular Weight: 298.37

Physical Appearance: White solid

Minimum Purity: ≥97%

Batch Molecular Structure:



Storage: Store at -20°C

Solubility & Usage Info:

DMSO to 100 mM

ethanol to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Okorji et al (2015) Antimalarial drug artem. inhibits neuroinflammation in BV2 microglia through Nrf2-dependent mechanisms. *Mol.Neurobiol.* **53** (6429). PMID: 26607631.

Akoachere et al (2005) *In vitro* assessment of methylene blue on chloroquine-sensitive and -resistant *Plasmodium falciparum* strains reveals synergistic action with artemisinins. *Antimicrob.Agents Chemother.* **49** 4592. PMID: 16251300.

Prada et al (1996) Upregulation of reactive oxygen and nitrogen intermediates in *Plasmodium berghei* infected mice after rescue therapy with chloroquine or artem. *J.Antimicrob.Chemother.* **38** 95. PMID: 8858461.

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