bio-techne
TOCRIS

Print Date: Mar 31st 2025

Certificate of Analysis

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Product Name: **Artemether** **Catalog No.: 6818** **Batch No.: 2**

CAS Number: 71963-77-4

IUPAC Name: (3*R*,5a*S*,6*R*,8a*S*,9*R*,10*S*,12*R*,12a*R*)-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: $C_{16}H_{26}O_5$.

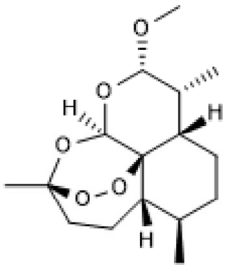
Batch Molecular Weight: 298.37

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 97.3% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Optical Rotation: $[\alpha]_D$ = +171.4 (Concentration = 0.5, Solvent = Methanol)

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	64.41	8.78	
Found	64.38	8.71	

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:

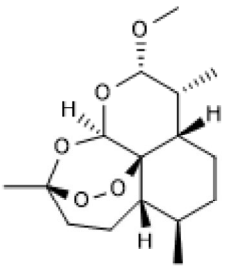
Batch Molecular Formula: $C_{16}H_{26}O_5$.

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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