TOCRIS
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Print Date: Jan 15th 2016

Certificate of Analysis

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Product Name: **Artemisinin** **Catalog No.: 2668** **Batch No.: 1**

CAS Number: 63968-64-9

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

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{15}H_{22}O_5$

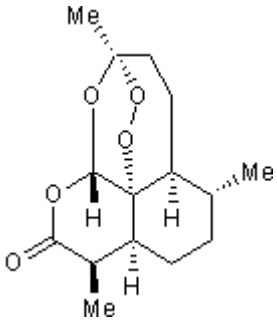
Batch Molecular Weight: 282.33

Physical Appearance: White solid

Solubility: DMSO to 100 mM
ethanol to 75 mM

Storage: Store at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

Melting Point: Between 150 - 152°C

HPLC: Shows >99.9% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Optical Rotation: $[\alpha]_D$ = +76 (Concentration = 0.5, Solvent = Methanol)

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	63.81	7.85	
Found	63.89	8.01	

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

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Description:

Antimalarial agent; interacts with heme to produce carbon-centred free radicals, causes protein alkylation and damages parasite microorganelles and membranes. Also selectively inhibits the P-type ATPase (PfATP6) of Plasmodium falciparum (K_i ~ 150 nM). Displays antiangiogenic effects in mouse embryonic stem cell-derived embryoid bodies.

Physical and Chemical Properties:

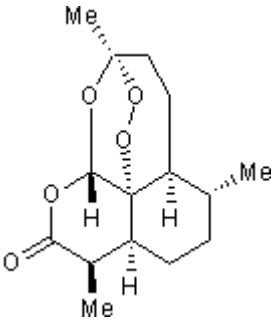
Batch Molecular Formula: $C_{15}H_{22}O_5$

Batch Molecular Weight: 282.33

Physical Appearance: White solid

Minimum Purity: >99%

Batch Molecular Structure:



Storage: Store at +4°C

Solubility & Usage Info:

DMSO to 100 mM
ethanol to 75 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. Our standard recommendations are:

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:

Balint (2001) Artemisinin and its derivatives. An important new class of antimalarial agents. Pharmacol.Ther. ***90*** 261. PMID: 11578659.

Eckstein-Ludwig *et al* (2003) Artemisinins target the SERCA of *Plasmodium falciparum*. Nature ***424*** 957. PMID: 12931192.

Wartenberg *et al* (2003) The antimalarial agent artemisinin exerts antiangiogenic effects in mouse embryonic stem cell-derived embryoid bodies. Lab.Invest. ***83*** 1647. PMID: 14615418.

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