Print Date: Jul 18th 2019

Certificate of Analysis

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Product Name: **Oridonin** **Catalog No.: 6924** **Batch No.: 1**

CAS Number: 28957-04-2

IUPAC Name: 7α,20-Epoxy-1α,6β,7,14-tetrahydroxykaur-16-en-15-one

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{20}H_{28}O_6$

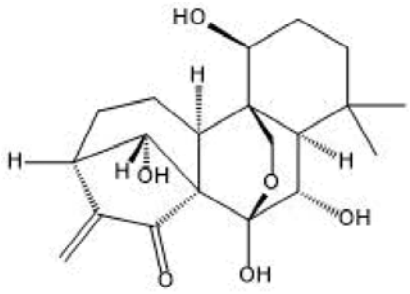
Batch Molecular Weight: 364.44

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 99% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	65.91	7.74	
Found	65.89	7.83	

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Description:

High affinity NLRP3 inflammasome inhibitor (K_d = 52.5 nM). Forms covalent bind within NACHT domain and blocks interaction of NLRP3 with NEK7 to inhibit assembly and activation of inflammasome. Inhibits glial activation, decreases inflammatory cytokine release, attenuates synaptic loss and improves behavioural deficits in Aβ1-42 treated mice. Also displays anti-cancer properties in various cancer cell lines.

Physical and Chemical Properties:

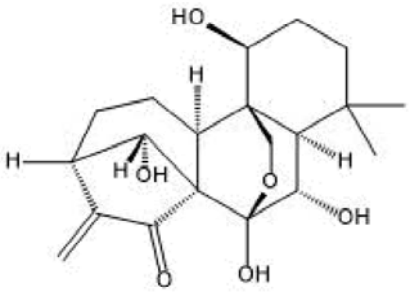
Batch Molecular Formula: $C_{20}H_{28}O_6$

Batch Molecular Weight: 364.44

Physical Appearance: White solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Store at -20°C

CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

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. 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:

He *et al* (2018) Oridonin is a covalent NLRP3 inhibitor with strong anti-inflammasome activity. Nat.Commun. ***9*** 2550. PMID: 29959312.

Wang *et al* (2017) Oridonin induces G2/M cell cycle arrest and apoptosis in human oral squamous cell carcinoma. Eur.J.Pharmacol. ***815*** 282. PMID: 28935563.

Yao *et al* (2017) Oridonin induces autophagy via inhibition of glucose metabolism in p53-mutated colorectal cancer cells. Cell Death Dis. ***8*** e2633. PMID: 28230866.

Wang *et al* (2016) Oridonin attenuates synaptic loss and cognitive deficits in an Aβ1-42-induced mouse model of alzheimer's disease. PLoS One ***11*** e0151397. PMID: 26974541.

Wang *et al* (2014) Oridonin attenuates Aβ1-42-induced neuroinflammation and inhibits NF-κB pathway. PLoS One ***9*** e104745. PMID: 25121593.

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