

Product Name: Borrelidin

Catalog No.: 4706

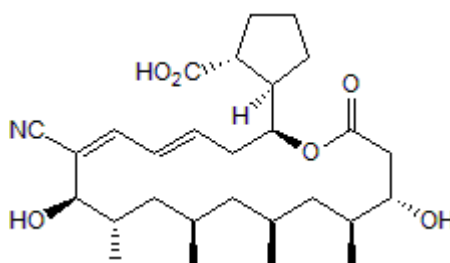
Batch No.: 1

CAS Number: 7184-60-3

IUPAC Name: (1*R*,2*R*)-2-[(2*S*,4*E*,6*Z*,8*R*,9*S*,11*R*,13*S*,15*S*,16*S*)-7-Cyano-8,16-dihydroxy-9,11,13,15-tetramethyl-18-oxooxacyclooctadeca-4,6-dien-2-yl]cyclopentanecarboxylic acid

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	C ₂₈ H ₄₃ NO ₆
Batch Molecular Weight:	489.64
Physical Appearance:	Off-white lyophilised solid
Solubility:	DMSO to 2 mM
Storage:	Store at -20°C
Batch Molecular Structure:	



2. ANALYTICAL DATA

HPLC:	Shows >98% purity
¹H NMR:	Consistent with structure

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

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Description:

Antibiotic and antiangiogenic. Selectively inhibits threonyl-tRNA synthetase (ThrRS). Exhibits antiangiogenic activity in a mouse model of tumor angiogenesis. Induces apoptosis in capillary tube-forming endothelial cells; disrupts capillary tubes and inhibits their formation (IC₅₀ = 0.8 nM in rat aorta).

Physical and Chemical Properties:

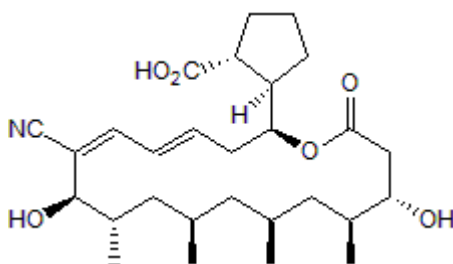
Batch Molecular Formula: C₂₈H₄₃NO₆

Batch Molecular Weight: 489.64

Physical Appearance: Off-white lyophilised 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 2 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:

Wakabayashi et al (1997) Borrelidin is an angiogenesis inhibitor; disruption of angiogenic capillary vessels in a rat aorta matrix culture model. *J.Antibiot.(Tokyo)*. **50** 671. PMID: 9315080.

Kawamura et al (2003) Anti-angiogenesis effect of borrelidin are mediated through distinct pathways: threonyl-tRNA synthetase and caspases are independently involved in suppression of proliferation and induction of apoptosis in endothelial cells. *J.Antibiot.(Tokyo)*. **56** 709. PMID: 14563161.

Woolard et al (2011) Borrelidin modulates the alternative splicing of VEGF in favour of anti-angiogenic isoforms. *Chem.Sci.* (2) 273. PMID: 22822423.

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