

Product Name: Borrelidin

Catalog No.: 4706

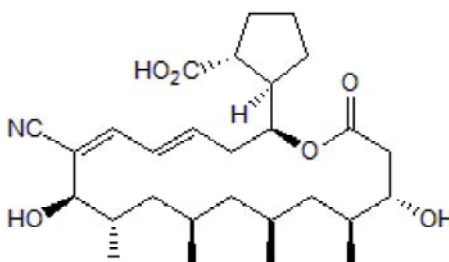
Batch No.: 2

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 solid
Solubility:	DMSO to 2 mM
Storage:	Store at -20°C
Batch Molecular Structure:	



2. ANALYTICAL DATA

HPLC:	Shows 98.9% purity
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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). Induces the unfolded protein response (UPR) and apoptosis in oral cancer cells.

Physical and Chemical Properties:

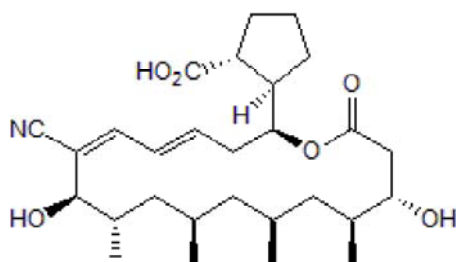
Batch Molecular Formula: C₂₈H₄₃NO₆

Batch Molecular Weight: 489.64

Physical Appearance: Off 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 2 mM

This product is supplied as a lyophilized solid and may be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

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:

Sidhu et al (2015) Borrelidin induces the unfolded protein response in oral cancer cells and Chop-dependent apoptosis. *ACS Med.Chem.Lett.* **6** 1122. PMID: 26617965.

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

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.

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.

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