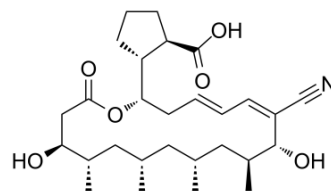


Borrelidin

Cat. No.:	HY-N6742
CAS No.:	7184-60-3
Molecular Formula:	C ₂₈ H ₄₃ NO ₆
Molecular Weight:	489.64
Target:	CDK; Parasite; Apoptosis; Antibiotic
Pathway:	Cell Cycle/DNA Damage; Anti-infection; Apoptosis
Storage:	-20°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro	Ethanol : ≥ 100 mg/mL (204.23 mM) * "≥" means soluble, but saturation unknown.					
	Preparing Stock Solutions	Solvent	Mass	1 mg	5 mg	10 mg
		Concentration				
		1 mM		2.0423 mL	10.2116 mL	20.4232 mL
		5 mM		0.4085 mL	2.0423 mL	4.0846 mL
10 mM		0.2042 mL	1.0212 mL	2.0423 mL		
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: 10% EtOH >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (5.11 mM); Clear solution 2. Add each solvent one by one: 10% EtOH >> 90% corn oil Solubility: ≥ 2.5 mg/mL (5.11 mM); Clear solution					

BIOLOGICAL ACTIVITY

Description	Borrelidin (Treponemycin) is a bacterial and eukaryal threonyl-tRNA synthetase inhibitor which is a nitrile-containing macrolide antibiotic isolated from <i>Streptomyces rochei</i> ^[1] . Borrelidin is an inhibitor of Cdc28/Cln2 of the budding yeast, with an IC ₅₀ of 24 μM ^[2] . Borrelidin is a potent angiogenesis inhibitor, with an IC ₅₀ of 0.8 nM. Borrelidin induces apoptosis in the tube-forming cells ^[3] . Borrelidin has strong antimalarial activities, with IC ₅₀ s of 1.9 nM and 1.8 nM against K1 and FCR3 strains of <i>Plasmodium falciparum</i> , respectively ^[4] .
IC₅₀ & Target	IC ₅₀ 24 μM (Cdc28/Cln2) ^[2]
In Vitro	Borrelidin can target ALL cell lines and induce apoptosis and mediating G ₁ arrest ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Habibi D, et al. Borrelidin, a small molecule nitrile-containing macrolide inhibitor of threonyl-tRNA synthetase, is a potent inducer of apoptosis in acute lymphoblastic leukemia. *Invest New Drugs*. 2012 Aug;30(4):1361-70.
- [2]. Tsuchiya E, et al. Borrelidin inhibits a cyclin-dependent kinase (CDK), Cdc28/Cln2, of *Saccharomyces cerevisiae*. *J Antibiot (Tokyo)*. 2001 Jan;54(1):84-90.
- [3]. Wakabayashi T, et al. Borrelidin is an angiogenesis inhibitor; disruption of angiogenic capillary vessels in a rat aorta matrix culture model. *J Antibiot (Tokyo)*. 1997 Aug;50(8):671-6.
- [4]. Otoguro K, et al. In vitro and in vivo antimalarial activities of a non-glycosidic 18-membered macrolide antibiotic, borrelidin, against drug-resistant strains of *Plasmodia*. *J Antibiot (Tokyo)*. 2003 Aug;56(8):727-9.
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Caution: Product has not been fully validated for medical applications. For research use only.

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