



LKT Laboratories, Inc.

## Borrelidin

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### Product Information

Product ID B5870

CAS No. 7184-60-3

Chemical Name

Synonym

Formula  $C_{28}H_{43}NO_6$

Formula Wt. 489.64

Melting Point

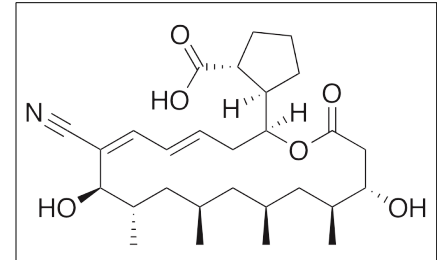
Purity  $\geq 99\%$

Solubility Soluble in ethanol, methanol (1 mg/ml), DMSO (1 mg/ml), DMF, and ethyl acetate

Store Temp 4°C

Ship Temp Ambient

**Description** Borrelidin is a macrolide antibiotic initially produced by *Streptomyces*. Borrelidin exhibits anti-parasitic, antifungal, anticancer, and anti-angiogenic activities. This compound inhibits threonyl-tRNA synthetase/ligase, inhibiting growth and survival of *Trypanosoma*, *Plasmodium*, and *Phytophthora*. In acute lymphocytic leukemia (ALL) cells, borrelidin induces G1 phase cell cycle arrest, induces apoptosis, and inhibits proliferation. In endothelial cells, borrelidin inhibits formation of new capillary tubes and collapses pre-formed capillary tubes, inducing threonine- and caspase-dependent apoptosis.



**Bulk quantities available upon request**

Product ID	Size
B5870	1 mg
B5870	5 mg

**References** Kalidas S, Cestari I, Monnerat S, et al. Genetic validation of aminoacyl-tRNA synthetases as drug targets in *Trypanosoma brucei*. *Eukaryot Cell*. 2014 Apr;13(4):504-16. PMID: 24562907.

Azcárate IG, Marín-García P, Camacho N, et al. Insights into the preclinical treatment of blood-stage malaria by the antibiotic borrelidin. *Br J Pharmacol*. 2013 Jun;169(3):645-58. PMID: 23488671.

Gao YM, Wang XJ, Zhang J, et al. Borrelidin, a potent antifungal agent: insight into the antifungal mechanism against *Phytophthora sojae*. *J Agric Food Chem*. 2012 Oct 3;60(39):9874-81. PMID: 22967236.

Habibi D, Ogloff N, Jalili RB, 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. PMID: 21678129.

Otoguro K, Ui H, Ishiyama A, 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. PMID: 14563165.

**Caution:** This product is intended for laboratory and research use only. It is not for human or drug use.