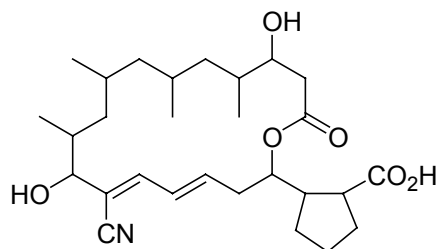


Borrelidin

Code: **BIA-B1013**

Pack sizes: **0.5 mg, 2.5 mg**



Synonyms : **Treponemycin, Antibiotic U 78548, Antibiotic C2989**

Specifications

CAS # : **7184-60-3**
Molecular Formula : **C₂₈H₄₃NO₆**
Molecular Weight : **489.6**
Source : ***Streptomyces* sp. MST-AS5347**
Appearance : **White Lyophilisate**
Purity : **> 99% by HPLC**
Long Term Storage : **-20°C**
Solubility : **Soluble in ethyl acetate, ethanol, methanol, DMF or DMSO.**

Application Notes

Borrelidin is an unusual nitrile-containing metabolite isolated from *Streptomyces*. Originally discovered as active against *Borrelia* species, borrelidin has since found a role as a selective inhibitor of bacterial and eukaryote threonyl-tRNA synthetase. More recent research has found that borrelidin is a very potent angiogenesis inhibitor and induces apoptosis of the capillary tube-forming cells. Borrelidin is also an important lead for antimalarial discovery, displaying activity against drug-resistant *Plasmodia*.

References

1. A unique hydrophobic cluster near the active site contributes to differences in borrelidin inhibition among threonyl-tRNA synthetases. Ruan T. et al. *J. Biol. Chem.* **2005**, 280, 571.
2. Borrelidin is an angiogenesis inhibitor; disruption of angiogenic capillary vessels in a rat aorta matrix culture model. Wakabayashi T. et al. *J. Antibiot.* **1997**, 50, 671.
3. Anti-angiogenesis effects 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. Kawamura T. et al. *J. Antibiot.* **2003**, 56, 709.
4. *In vitro* and *in vivo* antimalarial activities of a non-glycosidic 18-membered macrolide antibiotic, borrelidin, against drug-resistant strains of *Plasmodia*. Otaguro K. et al. *J. Antibiot.* **2003**, 56, 727.