AN0128

Cat. No.:	HY-10979
CAS No.:	872044-70-7
Molecular Formula:	C ₂₀ H ₁₆ BCl ₂ NO ₃
Molecular Weight:	400.06
Target:	Bacterial
Pathway:	Anti-infection
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)

SOLVENT & SOLUBILITY

In Vitro	DMSO : 125 mg/mL (312.45 mM; Need ultrasonic)						
	Preparing Stock Solutions	Solvent Mass Concentration	1 mg	5 mg	10 mg		
		1 mM	2.4996 mL	12.4981 mL	24.9963 mL		
		5 mM	0.4999 mL	2.4996 mL	4.9993 mL		
		10 mM	0.2500 mL	1.2498 mL	2.4996 mL		
	Please refer to the solubility information to select the appropriate solvent.						
In Vivo	 Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.08 mg/mL (5.20 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil 						
	Solubility: ≥ 2.08 mg/mL (5.20 mM); Clear solution						

Description	AN0128 is a boron-containing antibacterial and anti-inflammatory agent. AN0128 against <i>S. aureus, S. epidermidis, P. acnes, B. subtilis</i> with minimum inhibitory concentration (MIC) values of 1, 0.5, 0.3, 1 μg/mL. AN0128 can be used for the research of periodontal disease and cutaneous diseases ^{[1][2]} .			
In Vitro	AN0128 (compound 2g; 10 μM; 24-48 hours) shows strong inhibition of the release of pro-inflammatory cytokines (TNF-α, IL- 1β) but no inhibition of IFN-γ or IL-4 release in human peripheral blood mononuclear cells (PBMCs) ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.			
In Vivo	AN0128 (1%, 5%; daily topical daub for 7 days) significantly reduces the formation of an inflammatory infiltrate and reduces bone loss ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.			

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Product Data Sheet

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Animal Model:	Experimental periodontitis in twelve-week-old male Sprague-Dawley rats (weighing from 275 to 300 g each) ^[2]		
Dosage:	1% AN0128 in 40% Transcutol P, 40% PBS, and 20% ethanol vehicle		
Administration:	Daily topical daub for 7 days		
Result:	Similar to Ketorolac, resulting 50% and 35% increase in bone area and bone volume respectively, and 38%, 42% decrease in bone loss and inflammation respectively.		
Animal Model:	Experimental periodontitis in twelve-week-old male Sprague-Dawley rats (weighing from 275 to 300 g each) ^[2]		
Dosage:	5% with Total toothpaste		
Administration:	Applied daily via a cotton-tip applicator. for 7 days		
Result:	Had more effect than Total toothpaste, resulting in a 33% increase in bone volume, and a 47% decrease in bone loss.		

REFERENCES

[1]. Baker SJ, et al. Identification of a novel boron-containing antibacterial agent (AN0128) with anti-inflammatory activity, for the potential treatment of cutaneous diseases. Bioorg Med Chem Lett. 2006 Dec 1;16(23):5963-7.

[2]. Luan Q, et al. Inhibition of experimental periodontitis by a topical boron-based antimicrobial. J Dent Res. 2008 Feb;87(2):148-52.

Caution: Product has not been fully validated for medical applications. For research use only.

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