

Cecropin B

Cat. No.:	HY-P0092
CAS No.:	80451-05-4
Molecular Formula:	C ₁₇₆ H ₃₀₂ N ₅₂ O ₄₁ S
Molecular Weight:	3834.67
Sequence:	Lys-Trp-Lys-Val-Phe-Lys-Lys-Ile-Glu-Lys-Met-Gly-Arg-Asn-Ile-Arg-Asn-Gly-Ile-Val-Lys-Ala-Gly-Pro-Ala-Ile-Ala-Val-Leu-Gly-Glu-Ala-Lys-Ala-Leu-NH ₂ <small>KWKVFKKIEKMGRNIRNGIVKAGPAIAVLGEAKAL-NH₂</small>
Sequence Shortening:	KWKVFKKIEKMGRNIRNGIVKAGPAIAVLGEAKAL-NH ₂
Target:	Cytochrome P450; Bacterial; Antibiotic
Pathway:	Metabolic Enzyme/Protease; Anti-infection
Storage:	Sealed storage, away from moisture Powder -80°C 2 years -20°C 1 year * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)

SOLVENT & SOLUBILITY

In Vitro	H ₂ O : 66.67 mg/mL (17.39 mM); Need ultrasonic					
		Solvent Concentration	Mass			
	Preparing Stock Solutions			1 mg	5 mg	10 mg
		1 mM		0.2608 mL	1.3039 mL	2.6078 mL
		5 mM		0.0522 mL	0.2608 mL	0.5216 mL
	10 mM		0.0261 mL	0.1304 mL	0.2608 mL	
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: PBS Solubility: 50 mg/mL (13.04 mM); Clear solution; Need ultrasonic					

BIOLOGICAL ACTIVITY

Description	Cecropin B has high level of antimicrobial activity and is considered as a valuable peptide antibiotic.
IC₅₀ & Target	CYP3
In Vitro	Cecropin B-induces NF-κB activation playing a pivotal role in the suppression of CYP3A29 through disrupting the association of the PXR/retinoid X receptor alpha (RXR-α) complex with DNA sequences. Cecropin B activates pig liver cells by interacting with TLRs 2 and 4, which modulated NF-κB-mediated signaling pathways ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

The wounds are moist with more exudation in C group, while that in other groups are dry without obvious exudation. The body temperature of the majority of the mice in each group is elevated, but the number of leucocytes in each group is lowered after operation. The quantity of bacteria in muscle in A group is obviously lower than that in M group and C group. The number of surviving mice after 4 PID in C group is evidently smaller than that in A and M groups ($P < 0.05$)^[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Animal Administration^[1]

Mice^[1]

Thirty ICR mice are enrolled in the study, and the *Pseudomonas aeruginosa* infection model is reproduced by excision of the full layer of dorsal skin with an area of 1 cm x 1 cm. Then they are randomly divided into C (control, n=10, with wet compress of isotonic saline at 3 postinjury hour (PIH)), M (with hydropathic compress of 100 g/L mafenide at 3 PIH), A (with wet compress of 1 000 mg/L Cecropin B at 3 PIH) groups. The changes in body temperature and hemogram in each group are determined before and 4 days after injury^[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- PeerJ. 2018 Jul 25;6:e5369.

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REFERENCES

- [1]. Zhou X et al. Cecropin B Represses CYP3A29 Expression through Activation of the TLR2/4-NF- κ B/PXR Signaling Pathway. *Sci Rep.* 2016 Jun 14
- [2]. Ren HT et al. [The antibacterial effect of cecropin B on *pseudomonas aeruginosa* infection of wounds in mice]. *Zhonghua Shao Shang Za Zhi.* 2006 Dec;22(6):445-7.

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

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