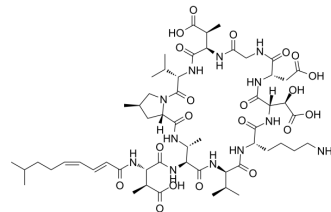


## Malacidin A

<b>Cat. No.:</b>	HY-N10584
<b>Molecular Formula:</b>	C <sub>56</sub> H <sub>88</sub> N <sub>12</sub> O <sub>20</sub>
<b>Molecular Weight:</b>	1249.37
<b>Target:</b>	Antibiotic; Bacterial
<b>Pathway:</b>	Anti-infection
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	Malacidin A is the calcium-dependent antibiotic (CDAs). Malacidin A is highly active against many antibiotic-resistant pathogens, particularly Gram-positive bacteria <sup>[1][2]</sup> .								
<b>In Vitro</b>	<p>Malacidin A has antibacterial activity against methicillin-resistant <i>Staphylococcus aureus</i> (MRSA) in a calcium-dependent manner<sup>[1]</sup>.</p> <p>Malacidin A (100-250 µg/mL) has broadly active against Gram-positive bacteria including multidrug-resistant pathogens and bacteria resistant to mechanistically diverse, clinically used antibiotics with MIC values of 0.1-2.0 µg/mL<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>								
<b>In Vivo</b>	<p>Malacidin A (4 mg/kg; apply over the wound) has antibacterial activity and inhibits bacterial load in cutaneous wound infection mice<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Animal Model:</td> <td>Male Sprague Dawley rats (8 weeks old) with cutaneous wound infection model<sup>[1]</sup></td> </tr> <tr> <td>Dosage:</td> <td>4 mg/kg</td> </tr> <tr> <td>Administration:</td> <td>Apply over the wound</td> </tr> <tr> <td>Result:</td> <td>Had no observed bacterial burdens in the wounds.</td> </tr> </table>	Animal Model:	Male Sprague Dawley rats (8 weeks old) with cutaneous wound infection model <sup>[1]</sup>	Dosage:	4 mg/kg	Administration:	Apply over the wound	Result:	Had no observed bacterial burdens in the wounds.
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### REFERENCES

[1]. Hover BM, et, al. Culture-independent discovery of the malacidins as calcium-dependent antibiotics with activity against multidrug-resistant Gram-positive pathogens. *Nat Microbiol.* 2018 Apr;3(4):415-422.

[2]. Kovalenko N, et, al. A Concise Synthetic Strategy Towards the Novel Calcium-dependent Lipopeptide Antibiotic, Malacidin A and Analogues. *Front Chem.* 2021 Aug 4;9:687875.

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

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