

Coconut water contains compounds with antibacterial activity against pathogenic bacteria. – source: GreenMedInfo Summary

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Abstract Title:

Identification and structural insights of three novel antimicrobial peptides isolated from green coconut water.

Abstract Source:

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Abstract:

Infections caused by pathogenic bacteria could cause an expressive negative impact on human health. A significant enhance in resistance to commercial antibiotics has been observed in all kinds of pathogenic bacteria. In order to find novel approaches to control such common infections, a wide number of defense peptides with bactericidal properties have been characterized. In this report, three peptides lower than 3kDa were purified and identified from green coconut (*Cocos nucifera* L.) water by using reversed phase-high performance liquid chromatography (HPLC), showing molecular masses of 858Da, 1249Da and 950Da. First one, named Cn-AMP1, was extremely efficient against both Gram-positive and Gram-negative bacteria, being MICs calculated for three peptides. All complete sequences were determined by MALDI-ToF analysis showing no identity in databanks. Moreover, peptide net charge and hydrophobicity of each peptide was in silico evaluated. Finally molecular modeling and dynamics were also applied generating peptides three-dimensional structures, indicating a better explanation to probable mechanisms of action. Cn-AMPs here reported show remarkable potential to contribute in the development of novel antibiotics from natural sources.

Article Published Date : Apr 01, 2009

Study Type : In Vitro Study

Additional Links

Substances : [Coconut](#) : CK(124) : AC(35), [Coconut Water](#) : CK(45) : AC(13)

Diseases : [Bacterial Infections and Mycoses](#) : CK(127) : AC(51), [Gram-Negative Bacterial Infections](#) : CK(9) : AC(9), [Gram-Positive Bacterial Infections](#) : CK(13) : AC(12)

Pharmacological Actions : [Anti-Bacterial Agents](#) : CK(946) : AC(292)

Additional Keywords : [Plant Extracts](#) : CK(3529) : AC(1197)