Jurnal Teknologi
Volume 78, Issue 11-2, 2016, Pages 41-47

The mode of antimicrobial action of Cinnamomum burmannii's essential oil & cinnamaldehyde (Article)

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Abstract

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The aim of this study was to postulate the mode of antimicrobial actions of both essential oil and cinnamaldehyde from Cinnamomum burmannii on the cell membrane of Escherichia coli,Staphylococcus aureus and Candida albicans. The essential oil was extracted by steam distillation and followed by the isolation of cinnamaldehyde. Four modes of action were tested including time-killing assay,salt tolerance assay,crystal violet assay and leakage of cellular metabolites. The antimicrobial effect on the cell membrane was dose-dependent whereby stronger antimicrobial action was observed by cinnamaldehyde at concentration equal to 4×MIC (1.33 mg/mL) compared to the essential oil. The potential of cinnamaldehyde as an antimicrobial compound of the cinnamon essential oil was discovered and proven to act on the cell membrane of tested microorganisms particularly against C. albicans.

Reaxys Database Information

View Compounds

Author keywords

Antimicrobial Cinnamaldehyde Cinnamomum burmannii Essential oil Mode of action

Funding details

Funding number	Funding sponsor	Acronym
	International Islamic University Malaysia	IIUM

Funding text

This work was supported by the International Islamic University Malaysia (IIUM).

ISSN: 01279696
DOI: 10.11113/jt.v78.9942
Source Type: Journal
Document Type: Article
Original language: English
Publisher: Penerbit UTM Press

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