

Isolation of Three Bioactive Phenantroindolizidine Alkaloids from the Fruit Latex of *Ficus botryocarpa* Miq.

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Abstract : The latex of *F. botryocarpa* fruit is applied on sores, wounds and other skin infections in Papua New Guinea ethnotherapeutic practices. Systematic bioassay guided separation and isolation of subsequent fractions of latex extracts resulted in three bioactive fractions active against *Staphylococcus aureus* and *Escherichia coli*. This study reports structural elucidation of the three isolates. Structures were determined by physical (M.pt and Rf values) and spectroscopic (1D-1H NMR, 2D-HSQC NMR, 2D-HMBC NMR) and MS ESI-POS. The two methylene protons (2H-1) and (2H-3) resonate as triplets at δ 3.59 and δ 4.99 respectively. Electron dense δ 4.99 (2H-3) on (C-3) depicts the strong electron-withdrawing component, quaternary nitrogen (=N⁺). Protons resonating at δ 3.88 and 3.89 are singlets depicting two methoxy groups. Both δ 3.88 and δ 3.89 are para-aryls substituents. The methines δ 9.13 and 8.60 are singlets depicting two lone protons on the indolizidinium aryl component. All isolates, (1), (2) and (3) were identified to be ficuseptine by comparing 1D-NMR assignments. 2D-NMR and MS of (2) found it to be ficuseptine chloride '2, 3-dihydro-6, 8-bis (4-methoxyphenyl)-, 1H-indolizinium chloride'. Their counter ions of the ficuseptines were not established and provide promising lead for the further investigation.

Keywords : *Ficus botryocarpa*, antimicrobial activity, ficuseptine, sores

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