

Research article

Isolation of indole alkaloids from *Kopsia larutensis* King & Gamble and their effects on histamine and β -hexosaminidase inhibitory in RBL-2H3 cell line

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Key words: *Kopsia larutensis*; Indole alkaloids; Histamine; β -hexosaminidase; Anti-allergic activity; RBL-2H3 cells.

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Abstract

This present study was aimed to isolate the indole alkaloids from various parts of *K. larutensis* King & Gamble. The indole alkaloids were isolate and identify by various chromatography and spectroscopic techniques. The major isolated compounds were tested for anti-allergic activity by evaluation of histamine and β -hexosaminidase release inhibitory activities in RBL-2H3 cells. The extracts of *K. larutensis* stem bark and leaves gave a new compound identified as kopsilarutensinine (1), two known compounds namely (-)-eburnamine (2) and kopsinine (3), and tetrahydroalstonine (4) which first time being reported in this plant. Crude alkaloids of stem bark and leaves showed highest inhibitory activities as compared to other parts. Meanwhile, compound 4 exhibited the highest inhibitory significantly among the isolates. These results were supported by docking simulation study which showed binding of compound 4 with responsible key residues. In conclusions, indole alkaloids from *K. larutensis* have potential as alternative anti-allergic agent.