CHEMICAL COMPOSITION AND LIPOXYGENASE INHIBITORY ACTIVITY OF THE ESSENTIAL OIL OF ALSTONIA ANGUSTILOBA

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Abstract. This study was aimed to investigate the chemical compositions and lipoxygenase inhibitory activity of the essential oil from Alstonia angustiloba growing in Malaysia. The essential oils were obtained by hydrodistillation and fully characterized by gas chromatography (GC-FID) and gas chromatography-mass spectrometry (GC-MS). Analysis of the A. angustiloba essential oil resulted in the identification of twenty-five chemical components, attributed 90.8% of the total oil. The most abundant components of A. angustiloba oil were linalool (21.2%), 1,8-cineole (16.8%), α-terpineol (9.5%), terpinene-4-ol (8.5%), β-caryophyllene (6.2%), and caryophyllene oxide (5.2%). The essential oil displayed moderate activity towards lipoxygenase activity with IC50 value of 45.8 μg/mL. To the best of the authors’ knowledge, this is the initial study that had looked into the essential oil composition of Alstonia angustiloba collected from Malaysia.

Keywords: essential oil, hydrodistillation, lipoxygenase, Alstonia angustiloba, Apocynaceae.