ANTIOXIDANT ACTIVITY OF EXTRACTS FROM THE LEAVES OF BLUMEA BALSAMIFERA DC AND THEIR MAJOR FLAVONOIDS WITH THE β-CAROTENE-LINOLEIC ACID MODEL SYSTEM

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The antioxidant activity of different organic extracts of Blumea balsamifera DC leaves and their major flavonoids was evaluated using a model system consisting of β-carotene-linoleic acid. Antioxidant activity of crude extracts (0.1, 0.5 and 1.0 mg/mL) as assessed with the β-carotene bleaching method decreased in the order of: methanol extract > chloroform extract > pet-ether extract. The antioxidant activity of all compounds (5.2 % 10⁻⁵ M) tested decreased in the order of: tamarixetin > rhamnetin > butylated hydroxytoluene > luteolin > butylated hydroxyanisole > α-tocopherol > quercetin > 5,7,3',5'-tetrahydroxylavonone > blumeatin > dihydroquercetin-7,4'-dimethyl ether > dihydroquercetin-4'-methyl ether. The total polyphenols of the extracts was determined spectrophotometrically according to the Folin-Ciocalteau procedures. Methanolic extracts contained high polyphenols. The result indicates that extracts containing high phenolics may provide the sources of natural antioxidants.

Keywords: Blumea Balsamifera, Total Polyphenols, Antioxidants, Flavonoids, β-carotene-Linoleic Acid Model.