

Poster 87

PROTECTIVE EFFECTS OF WATER EXTRACTS FROM *Barringtonia racemosa* SHOOTS TOWARDS *in vitro* OXIDATION OF HUMAN SERUM, LOW DENSITY LIPOPROTEIN AND HAEMOGLOBIN

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Barringtonia racemosa is a wild tropical plant belonging to the family *Lecythidaceae*. In Malaysia, the young leaves or shoots are usually consumed as a salad by the Malay community. We had recently reported the water extracts of *B. racemosa* to contain high amount of ascorbic acid and polyphenols as well as high antioxidant activities, compared to the ethanol, ethyl acetate and hexane extracts. In this study, we identified the specific polyphenol compounds using ultra-high performance liquid chromatography. Five major compounds were detected in the water extracts; gallic acid, protocatechuic acid, ellagic acid, quercetin and kaempferol. The effects of the water extracts of *B. racemosa* leaf (BLE) and stem (BSE) on *in vitro* copper-induced serum oxidation as well as LDL and nitrite-induced haemoglobin (Hb) oxidation were evaluated. BLE, BSE and gallic acid (GA) successfully attenuated oxidation of serum, LDL and Hb. BLE and BSE were comparable to GA in inhibiting the formation of malondialdehyde (> 50%) in LDL oxidation. A similar trend was observed for serum oxidation. BLE was more potent than BSE in delaying the time needed to oxidise Hb to MetHb. GA, particularly at high concentrations showed pro-oxidant effects, increasing oxidation of Hb to MetHb. In conclusion, the shoots of *B. racemosa* especially the leaves can be a potential source of preventive agent against oxidative stress-related diseases corresponding to their antioxidant properties.