P26: BIOACTIVE CONSTITUENTS AND ANTIOXIDANT ACTIVITIES OF THE EDIBLE SHOOTS OF BARRINGTONIA RACEMOSA (L.) SPRENG

*Kin Weng Kong1, Sarni Mat Junid, Norhaniza Aminudin2, Amin Ismail3 and Azlini Abdul Aziz4

1Department of Molecular Medicine, Faculty of Medicine, University of Malaya, 50603 Kuala Lumpur, Malaysia.
2Institute of Biological Science, Faculty of Science, University of Malaya, 50603 Kuala Lumpur, Malaysia.
3Department of Nutrition and Dietetics, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, 43400 UPM Serdang, Selangor, Malaysia.

The shoots of putat (Barringtonia racemosa) are commonly consumed by the Malay community. Polar to apolar solvent system namely water, ethanol, ethyl acetate and hexane were employed for extraction of antioxidants from the leaves and stems of putat shoots. The water extracts gave the highest extraction yields (10.26–13.86%), total phenolic content (146.22–158.62 mg GAE/g extract) and ascorbic acid content (83.48–88.87 mg/g extract) in both leaves and stems. However, total flavonoids (421.77–710.31 mg RE/g extract) and carotenoids (550.67–875.11 mg BE/g extract) were higher in the ethyl acetate extracts. The water extracts of putat leaves showed at least 2-fold higher antioxidant capacities against the other solvent extracts when analysed using FRAP (3.15–4.22 mmol Fe²⁺/g extract) and ABTS (1.60–1.79 mmol TE/g extract) assays. The DPPH (IC₅₀ = 53.86–58.24 μg extract/ml) and superoxide anion (IC₅₀ = 53.86–58.24 μg extract/ml) scavenging activities of the water extracts and the nitric oxide (IC₅₀ = 221.60–308.28 μg extract/ml) scavenging activities of the ethyl acetate extracts were comparable to several antioxidant standards namely gallic acid, ascorbic acid and rutin. This study shows that the putat leaves, particularly the water extracts, can be a potent source of antioxidant polyphenols and ascorbic acid.

P27: PROBIOTIC SUPPLEMENTATION ON THE REDUCTION OF PRO-INFLAMMATORY MARKERS IN STREPTOZOTOCIN-INDUCED DIABETIC RATS

Zarfeshani, A.1, Khaza’ai, H.2, Mohd Ali R.3, Zarida Hambali4, , *M.S.A. Mutalib1

1Department of Nutrition and Dietetics, Faculty of Medicine and Health Sciences,
2Department of Biomedical Sciences, Faculty of Medicine and Health Sciences,
3Department of Pathology, Faculty of Medicine and Health Sciences, University Putra Malaysia,
4Division of Academic Development, Ministry of Higher Education, Federal Government Administrative Centre, 62505 WP, Putrajaya, Malaysia

It has been demonstrated that probiotic supplementation has positive effects in several murine models of disease through influences on host immune responses. Since inflammation has been implicated with diabetes mellitus (DM) severity, reducing the onset of inflammation in diabetes mellitus is suggested to reduce various complications associated with the disease. This study examined the effect of Lactobacillus casei strain Shirota (L.cS) on the blood glucose, C-reactive protein (CRP), Interleukin-6 (IL-6), Interleukin-4 (IL-4) and body weight among STZ-induced diabetic rats. Rats were divided into four groups (N=6) for each group: non-diabetic rats (ND), non-treated rats (NT) was only given a saline solution (85%) to replace the L.cS, treated groups by either 10⁹ cfu/ml (DLC1) or 10¹¹ cfu/ml (DLC2) of L.cS. Blood glucose was monitored and inflammatory markers were measured as well as conducting histopathology of selected organ.