

**P-85****Extraction, Preliminary Chemical Characterization, and Antioxidant Properties of Polysaccharides From *Eurycoma Longifolia* Jack**

Nursyazura Khari\*, Abdalrahim F.A. Aisha and Zhari Ismail

*Department of Pharmaceutical Chemistry, School of Pharmaceutical Science, Universiti Sains Malaysia (USM), 11800 Minden, Pulau Pinang, Malaysia; E-mail: syazura84@hotmail.com*

*Eurycoma longifolia* Jack or Tongkat Ali (TA) is a tropical tree from the family Simaroubaceae. The plant is rich in bioactive components such as quassinoids, alkaloids, proteins, saponins and polysaccharides that contribute to its biological activities. Polysaccharides used in the food industry and in medicine have attracted much attention due to their biological activities such as immune-stimulatory, anti-inflammatory, anti-tumour, anti-ageing and antioxidant activities. This study aims to characterize and evaluate the antioxidant properties of different polysaccharides in TA root. Five polysaccharide extracts were prepared using ultrasonic, hot water, acid and alkaline extraction from the root and a fractionated water extract. Preliminary chemical characterization was conducted using physicochemical methods, FTIR spectroscopy and PCA analysis. The total polysaccharide content and antioxidant activities using DPPH were also evaluated. The colours of the five polysaccharides extracted by different methods had few differences. The wavelength scan indicated the presence of proteins in the extracts. The FTIR results showed absorption bands at 1640, 1000–1200 and 880  $\text{cm}^{-1}$  for all polysaccharides. Polysaccharide concentration was in the range 46-98% (w/w). The highest antioxidant effect was obtained in the extract prepared under acidic conditions with median inhibitory concentration of 0.73 mg/ml.

**Keywords:** *Eurycoma longifolia* Jack, Polysaccharides, Antioxidant.

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