

P-88**Antioxidant and Cytotoxic Activities of Hot Water Extract of *Pereskia Bleo***Ai Theng Lum¹, Norhaniza Aminudin^{1,2,*} and Puteri Shafinaz Abdul-Rahman^{2,3}

¹*Institute of Biological Sciences, Faculty of Science, University of Malaya, 50603 Kuala Lumpur, Malaysia;* ²*University of Malaya Centre for Proteomics Research, Medical Biotechnology Laboratory, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia;* ³*Departments of Molecular Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia; E-mail: hanizaaminudin@um.edu.my*

Pereskia bleo, locally known as Jarum Tujuh Bilah, has been claimed to have various medicinal capabilities, including anti-cancer, anti-rheumatic, and anti-inflammatory activities. In Malaysia, *P.bleo* has been used as a natural remedy either eaten raw (leaves) or taken as a concoction brewed from dried plant. Hot water extraction method was selected in the present study to mimic the traditional preparation. The hot water extract was then subjected to fractionation process prior to bioassays. Results of exogenous antioxidant assays, including the Total Phenolic content, DPPH and ABTS assays elucidated that hot water extract of *P.bleo* and its fractions have moderate antioxidant activities, with ethyl acetate (EA) fraction exhibited the strongest antioxidant activity. Cytotoxicity of *P.bleo* extracts towards various cancer cell lines were tested using MTT assays. MTT results showed that *P.bleo* extracts possessed moderate cytotoxicity towards tested cell lines, with EA fraction showing the lowest IC₅₀ value (104.47±3.5 µg/ml) towards HT-29 cell line. EA fraction was shown to induce apoptosis in HT-29 cell line. The flow cytometric data of Annexin V-FITC/PI staining assay suggested that EA fraction was able to induce early and late apoptosis in HT-29 cells in a dose-dependent pattern. Meanwhile, in DNA fragmentation assay, DNA ladder was apparent in HT-29 cells following treatment with EA fraction, indicating the occurrence of late apoptosis.

Keywords: *Pereskia bleo*, Cactecea, Antioxidant, Apoptosis.
