

6th Asia-Pacific Pharma Congress

July 11-13, 2016 Kuala Lumpur, Malaysia

Evaluation of antioxidant and cytotoxic activities of several medicinal plants in Brunei Darussalam

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In the current study, the antioxidant and cytotoxic activities of six plant species: *Litsea elliptica* Blume, *Dillenia suffroticosa* (Griff.) Mart, *Dillenia excelsa*, *Aidia racemosa* (Cav.) Tirveng., *Vitex pinnata* L., and *Senna alata* (L.) Roxb found in Brunei Darussalam were evaluated. The crude methanol, ethanol and aqueous extracts of the leaves of these plants plus the roots and bark of *D. excelsa* were evaluated for their total-phenolic-content (TPC), total-flavonoid-content (TFC) and 2,2-diphenyl-1-picrylhydrazyl (DPPH)-radical-scavenging activity. A majority of the methanol extracts produced the highest TPCs and DPPH radical scavenging activities while majority of ethanol extracts showed highest TFCs. *L. elliptica*, *D. suffroticosa*, *D. excelsa* and *A. racemosa* extracts showed the overall highest TPCs and radical-scavenging activities, while *L. elliptica*, *S. alata*, *D. suffroticosa* and *A. racemosa* extracts showed the overall highest TFCs. MTT (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide) assays were carried out on A549 (lung carcinoma) and CaSki (cervical carcinoma) cell lines. It was found that *L. elliptica* was the most cytotoxic against A549 cells followed by *D. suffroticosa*. For CaSki cells, *A. racemosa* was found to be the least cytotoxic while *L. elliptica* remained as the most cytotoxic followed by *D. suffroticosa*. Our findings have indicated that the extracts from the leaves of *L. elliptica*, *D. suffroticosa*, *D. excelsa* and *A. racemosa* showed antioxidant and anti-cancer properties against A549 and CaSki cells.

Biography

Norhayati Ahmad has obtained her PhD from University of Warwick, UK. She is currently a Senior Lecturer at the Faculty of Science, Universiti Brunei Darussalam. Her current research work involves the study into the role of *Nigella sativa* and its active components in diabetes disease model and pancreatic islet regeneration. She is also interested in determination of cytotoxic activity of natural products on cancer cell lines.

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