In vitro studies were carried out to evaluate the cytotoxic potential of three selected forest herbaceous species: Tectaria singaporeana (TS), Blechnum orientale (BO) and Tacca integrifolia (TCI). Methanol/methylene chloride extracts of three plant parts viz. leaves, roots and stems were assessed for their cytotoxic potential against human breast cancer cells (MCF-7wt.). Screening of these extracts was done using the microculture, followed by tetrazolium assay after a period of 72 h. There were significant differences between different parts of plants and dilution levels in terms of cytotoxicity, with roots and concentration of 100 μg mL⁻¹ showing the highest cell mortality of 19.58 and 36.59%, respectively. However, the leaves and the stems of all three plant species did not induce any cytotoxic activity on the cells. Overall, the most promising material (IC50 <100 μg mL⁻¹) were the methanolic extracts from the roots of all three plants. Tectaria singaporeana showed the highest cytotoxic potential with an IC50 value of 28.57 ± 11.74 μg mL⁻¹ followed by Blechnum orientale, 32.07 ± 7.85 μg mL⁻¹ and Tacca integrifolia, 95.03 ± 17.49 μg mL⁻¹. From this study, the extracts of these plants may prove to be useful in cancer treatment and prevention.

**Keyword:** Medical plants, Apoptosis, Breast Cancer, Tectaria singaporeana, Blechnum orientale, Tacca integrifolia