

## **Anticancer properties and phenolic contents of sequentially prepared extracts from different parts of selected medicinal plants indigenous to Malaysia.**

### **ABSTRACT**

Different parts of four edible medicinal plants (*Casearia capitellata*, *Baccaurea motleyana*, *Phyllanthus pulcher* and *Strobilanthus crispus*), indigenous to Malaysia, were extracted in different solvents, sequentially. The obtained 28 extracts were evaluated for their in vitro anticancer properties, using the MTS assay, on four human cancer cell lines: colon (HT-29), breast (MCF-7), prostate (DU-145) and lung (H460) cancers. The best anticancer activity was observed for the ethyl acetate (EA) extract of *Casearia capitellata* leaves on MCF-7 cell lines with IC<sub>50</sub> 2.0 µg/mL and its methanolic (MeOH) extract showed an outstanding activity against lung cancer cell lines. Dichloromethane (DCM) extract of *Phyllanthus pulcher* aerial parts showed the highest anticancer activity against DU-145 cell lines, while significant activity was exhibited by DCM extract of *Phyllanthus pulcher* roots on colon cancer cell lines with IC<sub>50</sub> value of 8.1 µg/mL. Total phenolic content (TPC) ranged over 1-40 mg gallic acid equivalents (GAE)/g. For all the samples, highest yields of phenolics were obtained for MeOH extracts. Among all the extracts analyzed, the MeOH extracts of *Strobilanthus crispus* leaves exhibited the highest TPC than other samples ( $p < 0.05$ ). This study shows that the nature of phenol determines its anticancer activity and not the number of phenols present.

**Keyword:** Anticancer activity; MTS assay; Total phenolic content; Medicinal plants.