Antioxidant and cytotoxic activities and total phenolic content of Mesua ferrea

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Abstract: The leaf and stem of Mesua ferrea were extracted with hexane, dichloromethane and methanol, respectively. These extracts were evaluated for their antioxidant and cytotoxic activities as well as total phenolic content. The methanol extract of the stem showed the highest antioxidant activity against DPPH and ABTS**+ radicals with the IC50 values of 0.15±0.01 and 0.64±0.01 mg/mL, respectively. Also, the methanol extract of the stem had the highest total phenolic content of 199.27±6.55 mg/g extract. The dichloromethane and methanol extracts of the leaf displayed cytotoxicity against KB and NCI-H187 cancer cell lines with the IC50 values of 23.70 and 25.14 µg/mL, respectively whereas the hexane extract of the leaf was active against MCF-7 cell line with the IC50 value of 38.12 µg/mL. All extracts were non-cytotoxic to Vero cells.

Keywords: Mesua ferrea; Antioxidant; Total phenolic; Cytotoxicity