

Phenolic contents, antioxidant and cytotoxic activities of *Elaeocarpus floribundus* Blume

Abstract

Elaeocarpus floribundus is higher plant that has been used as traditional medicine for treating several diseases. There is no previous report on phytochemicals and bioactivity studies of this species. In this investigation, triterpenoids friedelin, epifriedelanol and β -sitosterol were isolated from its leaves and stem bark. Determination of total phenolic content of methanolic extract of leaves and stem bark was carried out using Folin-Ciocalteu reagent. All extracts and isolated compounds were subjected to screening of antioxidant activity using DPPH free radical scavenging method and cytotoxic activities by MTT assay towards human T4 lymphoblastoid (CEM-SS) and human cervical (HeLa) cancer cells. In the total phenolic content determination, methanolic extract of leaves gave higher value of 503.08 ± 16.71 mg GAE/g DW than stem bark with value of 161.5 ± 24.81 mg GAE/g DW. Polar extracts of leaves and stem bark possessed promising antioxidant activity with methanol extract of stem bark exhibited strongest activity with IC₅₀ value of 7.36 ± 0.01 μ g/ml. In the cytotoxic activity assay, only chloroform extract of leaves showed significant activity with IC₅₀ value of 25.6 ± 0.06 μ g/ml against CEM-SS cancer cell, while friedelin and epifriedelanol were found to be active against the two cancer cells with IC₅₀ values ranging from 3.54 to 11.45 μ g/ml.

Keyword: Antioxidant; Cytotoxic; *Elaeocarpus floribundus*; Phenolic content; Triterpenoids.