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Cytotoxicity Assessment Of Labisia pumila On Prostate Cancer Cell lines (DU145)

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Abstract

Labisia pumila or locally known as Kacip Fatimah devours the great prospective in the herbal industry. This herbaceous undershrub of the Myrsinaceae family has been used a long time ago and has been exploited aggressively as drinks, cosmetics and health supplement There are three varieties of L pumila, which is L pumila var alata, L pumila var pumila and L pumila var lanceolata and each has their own use and properties. !t is believed that L pumila var alata may demonstrate some anticancer activities exerted by certain phytochemical abundant such as gallic acid in this plant. The leaves of L pumila var alata were extracted using three different types of extraction which are maceration, direct and indirect ultrasound assisted extraction. Water was used as the solvent for each type of extraction. MTT, viability test and morphological studies were carried out to determine the cytotoxicity effects of three types of plant extracts on human prostate cancer cell tines (DU 145). The phenolic compound such as gallic acid, kaemferol and caffeic was detected via HPLC. The MTT assay indicated that plant extracts from maceration induce apoptosis and inhibit around 42% of the cell population compare to negative controls. In case of viability studies, maceration extracts have killed a!! the cells within 9 days white the negative control recorded 12 days for alt ceils to die. The morphological changes were observed using an inverted microscope to perceive the irregular detachment and clumping of the cells. There was some morphological changing of the cells from hexagonal to round shape after treatment with the extracts. Blabbing cells, chromatin condensation, apoptotic cells and late apoptotic body can be seen after staining. As conclusion, L pumila shows the significant inhibition of growth of prostate cancer cell tines and can be applied as cytotoxic agents in the future treatment of prostate cancer.

Keywords: Labisia pumila; DU 145 cell lines, cytotoxixity, extraction,
MTT assay.

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