Moringa Leaf Ethanol Extract, Role Of Gene Expression Bax/Bcl-2 Ratio In Cervical Cancer Hela

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Cervical cancer is one cause of death in women. Moringa leaves has antioxidant activity, and anti-inflammatory. The antioxidant activity could be expected to be used as anti-cancer because it contains flavonoids. The purpose of this study to prove that the leaves of Moringa can increase the activity of apoptosis in HeLa cancer cells.Quercetin is a flavanol molecules contained in the leaves of Moringa (Moringaoleifera) .Quercetin will bind free radical species so as to reduce the reactivity of the free radicals. Flavanol molecules is one type of flavonoid that is active as antioksidan.The antioxidant properties of the compound quercetinis able to inhibit the process carsinogenesis. Carcinogenic compounds are compounds that can oxidize DNA, causing mutations. Quercetin is capable of stabilizing free radicals formed by carcinogenic compounds such as oxygen radicals, peroxides and superoxide. Quercetin stabilizes these compounds through the hydrogenationreaction and the formation of complex.

Methods: Moringa leaf extraction using 70% ethanol. The MTT assay performed with different concentrations of 50, 100, 150, 200, 250 and 300µG / mL of the extract. In line with the observations of availability of cells with Tryphan Blue Exclusion Assay method, and isolation of proteins Bax and Bcl-2 by using RT PCR to calculate the ratio of Bax-Bcl2. While the electron microscope is used to determine cell death due to apoptosis.

Results: With the RT PCR, Bax protein will increase whereas Bcl-2 protein will decline.

Moringa oleifera is potentially to be developed as co-chemotherapeutic agent for cervical cancer, while molecular mechanism need to be explored.

Keyword: Moringa Leaf, cervical cancer, Bax, Bcl-2

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The Chelating Effect of Caesalpinia sappan L. Extract on Serum Blood With Excessive Iron Condition

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Study on the chelation activity of secang wood extract (Caesalpinia sappan, L) (SWE) in rats that were induced by iron dextran with iron overload condition has been done. This study aims to get the exact dose of SWE which has iron chelation effect. The study was conducted using completely randomized design (CRD) in male Wistar rats (Rattus norvergicus L.) aged 8 weeks with average weight of 200 g. The treatments were divided into seven groups with three repetitions, which included the provision of distilled water (P0) control, Powder Gum Arabic (PGA) (P1), iron dextran 60 mg / kg bw (P2), iron dextran + Deferiprone dose of 75 mg / kg bw (P3), iron dextran + SWE dose of 100 mg / kg / mm (P4), iron dextran + SWE dose of 200 mg / kg bw (P5), and iron dextran + SWE dose of 400 mg / kg / mm (P6). All therapies were given by oral administration. Parameters of the iron level that were measured including the levels of ferritin, transferrin, hepatic iron content, serum iron levels, Total Iron Binding Capacity (TIBC), and transferrin saturation. Our results showed iron dextran administration at 60 mg / kg / mm increased iron and ferritin level in serum and iron level in liver (32.6%, 190% and 317% consecutively). Furthermore, iron SWE at 200 mg/kg body weight on iron overload rat reduced serum level of ferritin (55.6%), iron (60%), transferrin saturation (60%) and reduced iron level in iver (18%). It also raised the level of transferrin by 30.62% and TIBC to 158.47%. As conclusion, SWE has capacity to bind iron in invivo, suggesting SWE as a candidate of potent iron chelation agent for patients who need continuous blood transfusion therapy

Keyword: iron chelation, iron overload, Caesalpinia sappan L., ferritin, transferrin, TIBC