EXTRACT OF A NATURAL PRODUCT: A NEW PROMISING CANDIDATE FOR CANCER DRUG DISCOVERY

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Abstract: The development of bioactive chemical from natural products has a rich and long history. Herbal medicines, as an important novel source with a wide range of pharmaceutical potential are being used to treat human diseases including almost all kinds of cancer. Multiple surveys reported that people with cancer commonly use herbs or herbal products as treatment choice. Therefore, the goal of this research was to determine whether extract derived from natural product induced cell cycle arrest and apoptosis of MDA-MB 231 cells. To achieve our goal, MDA-MB 231 cells were treated with plant extract. To achieve our goal, cell viability was determined by MTS assay using the spectrophometer. Cell cycle and cell apoptosis was measured by flow cytometry analysis. Data obtained from MTS assessment indicated that the plant extract significantly reduced the number of live cells in a dose-dependent manner. Flow cytometry data demonstrated that the plant extract induced cell cycle arrest and triggered apoptosis in treated cells compared to the control group. Together, our result demonstrated that the plant extract tested here is capable of inhibiting cell proliferation, inducing cell arrest, and triggering apoptosis through phosphatidylserine externalization, and caspase-3 activation.

Keywords: Plant extracts, anti-cancer drugs, triple negative breast cancer

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