

Studies on Induction of Cytotoxicity Through Apoptosis In Ovarian Cancer Cell Line (CAOV-3) by Chloroform Extract of Artocarpus Kemando Miq

Authors : Noor Shafifiyaz Mohd Yazid, Najihah Mohd Hashim, Hapipah Mohd Ali, Syam Mohan, Rosea Go

Abstract : Artocarpus kemando is a plant species from Moraceae family. This plant is used as household utensil by the local and the fruits are edible. The plants' bark was used for the extraction process and yielded the chloroform crude extract which was used to screen for anticancer potential. The cytotoxic effect of the extract on CAOV-3 and WRL 68 cell lines were determined using 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide or MTT assays. Qualitative AO/PI assay was performed to confirm the apoptosis and necrosis process. Meanwhile, the measurement of cell loss, nuclear morphology, DNA content, cell membrane permeability, mitochondrial membrane potential changes and cytochrome c release from mitochondria were detected through cytotoxicity 3 assay. In MTT assay, A. kemando inhibited 50% growth of CAOV-3 cells at 27.9 ± 0.03 , 20.1 ± 0.03 , 18.21 ± 0.04 $\mu\text{g/mL}$ after 24, 48 and 72 hour, respectively. The morphology changes can be seen on CAOV-3 with a production of cell membrane blebbing, chromatin condensation and apoptotic bodies. Evaluation of cytotoxicity 3 on CAOV-3 cells after treated with extract resulting loss of mitochondrial membrane potential and release of cytochrome c from mitochondria. The results demonstrated A. kemando has potentially anticancer agent, particularly on human ovarian cancer.

Keywords : anticancer, Artocarpus kemando, ovarian cancer, cytotoxicity

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