

A Prenylflavanoid, HME5 with Antiproliferative Activity in Human Ovarian Cancer Cells

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Abstract : Ovarian cancer is the most lethal gynecological malignancies. HME5, a prenylflavanoid has been isolated from local medicinal plant. This compound has been reported to possess a broad spectrum of biological activities including anticancer property. However, the potential of HME5 as an antiproliferative and cytotoxic agent on an ovarian cancer cells has not yet been investigated. In this present study, we examined the antiproliferative and cytotoxic effect of HME5 on Caov-3 (Human Ovarian Adenocarcinoma) cell line by using 3-[4,5-dimethylthiazol-2-yl]-2,5-diphenyltetrazolium bromide (MTT) assay, Acridine orange and propidium Iodide (AOPi) and cell cycle analysis study. HME5 has shown to inhibit Caov-3 in a time-dependent manner with the IC₅₀ values of 5µg/ml, 2µg/ml and 1µg/ml after 24h, 48h and 72h treatment, respectively. Morphological study from AOPi analysis showed that HME5 induced apoptosis after 24 and 48h post-treatment. Nevertheless, HME5 exhibited cell cycle arrest at G1 phase as indicated in flow cytometry cell cycle profiling. In conclusion, HME5 inhibited proliferation of Caov-3 through induction of apoptosis and cell cycle arrest at G1 phase.

Keywords : apoptosis, prenylflavanoid, ovarian cancer, HME5

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