

عنوان مقاله:

Up-regulation of ODC1 and ADA gene expression and growth inhibition of human breast cancer cells by *Urtica dioica*

محل انتشار:

دوازدهمین کنگره بین المللی سرطان پستان (سال: 1394)

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خلاصه مقاله:

Introduction: Breast cancer is the most common cancer in the world and is the second leading cause of death due to cancer. Breast cancer treatment such as surgery, radiotherapy, chemotherapy are associated with side effects. *Urtica dioica* is a traditional herbal medicine. Several studies have revealed anticancer activities of this plant. In the present study, we have evaluated the effects of aqueous extract of *Urtica dioica* on cell proliferation by evaluating ADA and ODC genes expression in breast cancer cell lines (MCF- 7, MDA-MB-231) and fibroblasts as a control. **Methods:** Cell lines were cultured in suitable media. After 24 h, different concentrations (0.375, 0.75, 1.5 and 3 mg/ml) of the extract were added and after 72 h, molecular analyzes were performed. Total RNA was extracted using Tripure and cDNA was synthesized with specific primers and ADA, ODC1, BAX and BCL- 2 genes expression were evaluated by qPCR **Results:** The results showed differential expression of ADA and ODC1 genes between cancer cell lines. In MCF-7 cell line, ADA was upregulated in dose-dependent manner but no expression change was noticed in MDA-MB cell line. Also, a significant higher BAX/BCL2 ratio was found at 1.5 mg/ml concentration of *U. dioica* extract. **Conclusion:** *U. dioica* extract effects on ODC1 and ADA genes expression and inhibits growth and induces apoptosis of breast cancer cells. Our results are in contradiction of those obtained from most previously conducted studies. Further studies are necessary to achieve more definitive results and determine the diagnostic value of ADA and ODC1 genes in cancer .development and also the mechanism of action of *U. dioica* on cell growth and apoptosis

کلمات کلیدی:

Breast cancer, *Urtica dioica*, Adenosine Deaminase, Ornithine Decarboxylase

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