Abstract
The Effects of α-Chaonine on ER-α Positive Endometrium Cancer Cells †

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Abstract: Endometrial cancer is one of the most common cancer types among women in the world. In our study, it was aimed to investigate the potential anticancer effect of α-chaconine, which is one of the major glycoalkaloids found in Solanum tuberosum (potato), on estrogen receptor (ER) positive endometrial cancer cell line RL95-2. The effect of α-chaconine on RL95-2 cell viability was determined by the method of sulforhodamine B. Effect of α-chaconine on cell growth curve was assessed with the real-time cell analyzer system (xcelligence). The ERα inhibitor methyl-piperidino-pyrazole (MPP) dihydrochloride was used as a positive control to evaluate the association of α-chaconine with ERα. Expressions of ERα and p-ERα protein level were investigated by western blot. ERα mRNA expressions were performed by the real-time PCR method. The IC₅₀ values of MPP dihydrochloride and α-chaconine were calculated as 20.01 μM and 4.72 μM, respectively. At MPP dihydrochloride 20 μM (p < 0.001), α-chaconine; 2.5 (p < 0.001); 5 (p < 0.001) and 10 μM (p < 0.001) concentrations, p-ERα/ERα ratio was decreased in the same significance compared to control. α-Chaconine decreased the level of ERα mRNA expression, after 24 h, but this decrease was not significant. This study showed for the first time the effect of α-chaconine on cell proliferation, ERα activity and expression in RL95-2 cells.

Keywords: α-chaconine; endometrium cancer; ERα; MPP; RL95-2; xcelligence

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