

Abstract

The Effects of α -Chaconine 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 ER α inhibitor methyl-piperidino-pyrazole (MPP) dihydrochloride was used as a positive control to evaluate the association of α -chaconine with ER α . Expressions of ER α and p-ER α protein level were investigated by western blot. ER α mRNA expressions were performed by the real-time PCR method. The IC₅₀ values of MPP dihydrochloride and α -chaconine were calculated as 20.01 μ M and 4.72 μ M, respectively. At MPP dihydrochloride 20 μ M ($p < 0.001$), α -chaconine; 2.5 ($p < 0.001$); 5 ($p < 0.001$) and 10 μ M ($p < 0.001$) concentrations, p-ER α /ER α ratio was decreased in the same significance compared to control. α -Chaconine decreased the level of ER α 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, ER α activity and expression in RL95-2 cells.

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

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