Resveratrol Exerted Anti-Angiogenic Effects on Human Adenocarcinoma Cells

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ABSTRACT

Introduction: Colorectal cancers have been considered devastating pathological conditions with high prevalence rates in developing and developed countries. Finding effective oncostatic compounds with fewer side effects is central to the debate. Phytocompounds with varied biological effects have been used to prevent and treat different tumors. In the present study, we investigated the tumoricidal effects of resveratrol on human colorectal HT-29 cells.

Methods and Materials: Cells were treated with different concentrations of resveratrol (25, 50, and 100 µM) for 48 hours. The survival rate, expression, and protein levels of angiopoietin (Ang)-1 and -2 were monitored using MTT, real-time PCR, and Western blotting.

Result: Data indicated the reduction of survival rate in HT-29 cells in a dose-dependent manner after being exposed to 25, 50, and 100 µM of resveratrol compared to the control group ($p = 0.05$). Based on real-time PCR and Western blot analyses, increasing doses of resveratrol can reduce the expression and protein levels of Ang-1 and -2 in a dose-dependent manner ($p = 0.05$).

Conclusion and Discussion: Resveratrol can reduce the angiogenesis properties of human colorectal HT-29 cells by suppressing Ang-1 and -2 in vitro conditions.

Keywords: Angiogenesis, Colorectal neoplasms, Humans, Resveratrol

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