Induction of Cytotoxicity in Melanoma Cell Line by CD8+ T cells Treated with Immunomodulator Fraction of Garlic (R10)
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Background: With extensive studies during the two past decades on garlic, the antitumor effect of this medicinal plant has been identified and reported. In this research, the effect of immunomodulator R10 fraction isolated from garlic was evaluated on cytotoxicity activity of CD8+ T cells against a melanoma cell line. Materials and Methods: Melanoma cell line was purchased from cell bank of Pasteur Institute of Iran. R10 fraction was prepared using ultrafiltration. CD8+ T cells were isolated by magnetic bead method. Cytotoxicity was measured with Cytotoxicity Detection Kit (LDH). Apoptosis was measured with Cell Death Detection ELISA™PLUS kit. Results: The findings show that the R10 fraction is able to induce dose-dependent cytotoxicity and apoptosis effects on the melanoma cell line through CD8+ T cells and the optimum effect is achieved in the 1/50 dilution of R10. Conclusion: The results show that the fraction of R10 can induce nonspecific cytotoxicity in target cells via CD8+ T cells.

Keywords: apoptosis, CD8+ T cells, Cytotoxicity, melanoma, R10 fraction, garlic