In vitro Immunomodulatory Effect of R10 Fraction of Garlic on CD8+ T Lymphocytes Viability and Production of TNF-α

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Background: T-cells, especially CD8+ T lymphocytes are the most important cells in anti-tumor response. Previously R10 fraction of garlic extract was reported as an immunomodulator which induced an effective cellular immunity and Th1 responses. In this study the in vitro immunomodulatory effect of R10 on CD8+ T cells viability and production of TNF-α was evaluated.

Materials and Methods: CD8+ T cells were isolated by magnet bead method from spleen cells of Balb/Cmice. R10 fraction was prepared using ultrafiltration. MTT assay was used to evaluate cell viability. TNF-α level were measured in the supernatant d by ELISA.

Results: The findings indicate that all dilutions of R10 fraction increased cell viability of CD8+ T cells in comparison with negative control group and in the presence of ConA dilution of 1:50 of R10 fraction significantly increased cell viability of CD8+ T Cells. Secretion of TNF-α was significantly increased by all dilutions of R10 fraction.

Conclusion: these findings suggest that R10 fraction of garlic can be used as an Immunomodulator drug candidate for induction of cellular Immunity.

Keywords: CD8+ T cells, R10 fraction, garlic, TNF-α, Viability