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• ***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/C mice. R10 fraction was prepared using ultrafiltration. MTT assay was used to evaluate cell viability. TNF- α level were measured in the supernatant 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