عنوان مقاله:

Anti-Proliferative Effect of rmIL-۲۷ Protein on ۴T۱ Mouse Breast Cancer Cells as a Candidate for Cancer Immunotherapy

محل انتشار:

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خلاصه مقاله:

Background and Objective: Breast cancer, assumed as a difficult -to –treat disorder across the world, is the most common malignancy among women. Over decades, significant advances in breast cancer immunotherapy and tumor immune biology have been brought about. In vitro studies of the effect of various cytokines have been conducted in breast tumor. Among Interleukins, IL-۲۷ -a novel cytokine- is associated with specific properties. Moreover, IL-۲۷ contributes to the Th۱ induction and also acts as a pro- inflammatory cytokine. The aim of this study was to evaluate the IL-۲۷ anti-proliferative effects on ۴T۱ cell line in vitro. Materials and Methods: In this study, ۴T۱ cells were cultured in RPMI۱۶۴۰. mIL-۲۷ gene was cloned, cells were transfected and recombinant protein was produced. Then, anti-proliferative effect of IL-۲۷ on ۴T۱ breast cancer cell line was evaluated. Results: Our results indicated that IL-۲۷ could suppress ۴T۱ cell proliferation significantly (p<۰/۰۱). Cell to cell interactions and also morphology of the cells were remarkably changed in comparison to control cells. Conclusion: Our results showed that, IL-۲۷ under in vitro conditions, could potentially suppress tumor without any essential cells and biologic factors of tumor matrix. Therefore, rmIL-۲۷ may be a probable candidate protein as an antitumor agent, applicable to breast cancer immunotherapy.

کلمات کلیدی:

Keywords: Recombinant murine, IL-۲۷, Antiproliferative, Breast tumor, Immune therapy