

INDUCTION OF ANTI-TUMOR ACTIVITY OF CD4⁺ AND CD8⁺ MOUSE LYMPHOCYTES BY ADMINISTRATION OF IL-2-PRODUCING CELL BASED VACCINES

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The aim of the studies was to evaluate the effect of genetically modified dendritic or tumor cell-based vaccines on induction of immune response against established murine colon carcinoma. An examination of the changes in infiltration of tumor tissue with CD4⁺ or CD8⁺ lymphocytes as well as generation of specific cytotoxicity of splenocytes from vaccinated MC38 colon carcinoma-bearing mice was performed.

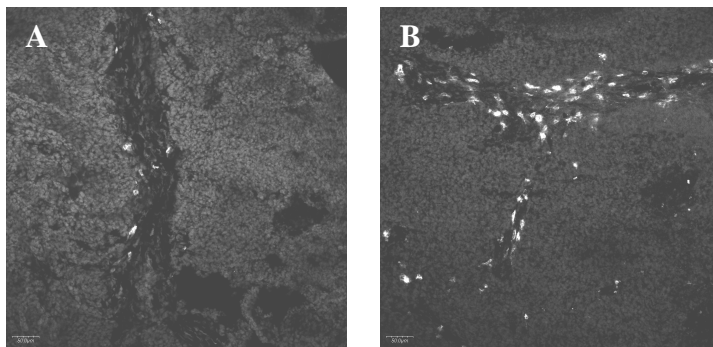


Figure 1. Infiltration of CD4⁺ cells into tumor tissue dissected from MC38 colon carcinoma-bearing mice: (A) uncured or (B) vaccinated with JAWS II/IL-2.

Mice were injected peritumorally with dendritic (JAWS II/IL-2) or tumor (MC38/IL-2, X63/IL-2) cells and/or JAWS II cells activated with tumor lysate (JAWS II/TAg). The tumor tissue cryostat sections stained with anti-CD4 or CD8 antibodies were analyzed using scanning confocal fluorescence microscope (Bio Rad MRC 1024).

An application of IL-2 producing transductants alone

or in combination with JAWS II/TAg cells caused visible changes in level of infiltration with CD8⁺ and CD4⁺ lymphocytes compared with control tumor tissue (**Figure 1**). An influx of CD4⁺ cells was more intensive than influx of CD8⁺ cells.

The phenotype of *in vitro* restimulated splenocytes obtained from vaccinated mice was also examined. This revealed that the number of cytotoxic (CD107a⁺) cells in both CD8⁺ and CD4⁺ splenocytes was different depending on the type of vaccine cells.

Taken together, these findings suggest that peritumoral administration of IL-2-producing vaccine cells was able to enhance especially the infiltration with CD4⁺ TILs, which was accompanied by increase in number of CD4⁺ cells among restimulated spleen cells. In contrast, no significant relation between influx of CD8⁺ cells and number of the CD8⁺ cells in restimulated splenocytes was noted.

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