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D07

The role of CD8 α + dendritic cells pulsed with tumor cell extract in the regression of fibrosarcoma

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The use of dendritic cells (DCs) as a cellular adjuvant provides a promising approach in immunotherapy of cancer. We investigated the effect of the CD8 α + DCs subset loaded with tumor extract (TE) in cancer immunotherapy. The Balb/c mice were injected subcutaneously in the right flank with mouse fibrosarcoma cells (Wehi-164) ten days before immunization with the CD8 α + DCs. The mice CD8 α + DCs subset were isolated by magnetic cell sorting (MACS), then the TE pulsed CD8 α + DCs and unpulsed CD8 α + DCs were subcutaneously injected. Tumor growth rate, survival and cytotoxic assay measured in both case and control groups. Immunotherapy with TE-CD8 α + DCs led to a significant increase in the specific cytotoxic activity. TE-CD8 α + DCs significantly induced the tumor growth suppression and longer survival than the other immunized mice. The current study suggests those specific anti-tumor immune responses against the fibrosarcoma can be induced by TE-CD8 α + DCs and may provide a useful therapeutic approach for cancer treatment.

Keywords CD8 α + dendritic cells. Fibrosarcoma. Immunotherapy. Tumor cell extract

D08

Enhanced subcutaneous B16 melanoma cell-derived primary tumor growth with reduced intratumoral arginase activity in STAT6 deficient mice

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Tumor tissue contains different immune cells which can generate an immune response against tumor cells. Paradoxically, the developing tumors can often induce a pro-tumoral immune-microenvironment leading to tumor progression and metastasis.

STAT6 transcription factor is a central player of Th2 type cytokines (IL-4, IL-13) mediated gene expression changes during the development of Th2 type T-cells and M2 macrophages. Th2 type cytokines can be produced by tumor-infiltrating immune cells and, in some cases, also by tumor cells during the tumor development.

Th2 cells and M2 macrophages are known to inhibit anti-tumor immunity and promote tumor progression.

The main goal of our work was to determine the role of STAT6 transcription factor in primary tumor development using subcutaneous B16 mouse melanoma tumor model in STAT6 knock-out and wild type mice.

We examined the weight, basal histological structure and macrophage content of developing primary tumors as well as the tumor's immunological status with measurement of different immune cell markers at RNA level and arginase activity of primary tumor lysates.

Our results show a significantly increased subcutaneous tumor growth in STAT6 deficient mice compared to the wild type animals. Histological structure and macrophage content of the tumor tissues were similar in both groups. However, both gene expression analysis and arginase activity assay revealed significantly reduced M2 macrophage marker arginase 1 expression and activity in STAT6 knock-out mice-derived tumors.

These results raise the question about the possible anti-tumor role of STAT6-induced arginase 1 expression/activity in the regulation of primary tumor growth.

D09

Adoptive transfer of CD4+ Th1 cells activates infiltrating leukocytes thereby inducing reduction in tumor burden in an endogenous mouse model of insulinoma

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It was shown previously that Th1-polarized CD4+ T cells can reject MHC class II-negative tumors in vivo. In an endogenous mouse model of insulinoma, adoptive transfer of tumor-specific Th1 cells is capable of significantly "arresting" tumor growth in RIP1-Tag2