

TITLE:

Adoptive transfer of Tc17 CD8 T cells leads to tumor inhibition and anti-tumor response

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ABSTRACT: Although CD4+ T cells that secrete IL-17 (TH17) have been fairly well-studied, we and others have shown that CD8 T cells can be cultured under similar skewing conditions, resulting in CD8 cells with a robust ability to secrete IL-17. The physiological role such CD8 T cells (Tc17) is not well understood. In our previous data, we showed that Tc17 can functionally convert to IFN-g producing cells, expand, and mediate autoimmunity in a self-antigen murine model. Because autoimmunity and antitumor immunity both involve the breaking of peripheral T cell tolerance, we performed experiments to test whether Tc17 could mediate anti-tumor immunity in implanted tumor models. In a preventive model, small numbers (0.1M) of sorted IFN-g-producing Tc1, IL-17-producing or IFN-g-producing Tc17 TCR-transgenic HA-recognizing CD8 T cells were adoptively transferred to immunocompetent recipient (Balb/C) mice on day -1, and 0.5M CT-26 tumor cells expressing HA as antigen were implanted into the footpad on day 0. Adoptive transfer of Tc17 was significantly superior to Tc1 in mediating an antitumor response and a better survival rate. Additional mechanisms are being explored.

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