

POSTER PRESENTATION

Open Access

CD8 α + dendritic cells dictate immune responses against murine AML

Douglas E Kline^{1,2*}, Dominick Fosco², Xiufen Chen², Justin Kline^{1,2}

From Society for Immunotherapy of Cancer 28th Annual Meeting
National Harbor, MD, USA. 8-10 November 2013

Spontaneous T cell responses generated against a variety of solid malignancies are often subverted by immune evasion mechanisms active in the tumor microenvironment. In contrast, the mechanisms that regulate T cell activation versus tolerance to hematopoietic malignancies, such as acute myeloid leukemia (AML), have not been well-characterized. Our recent work in a murine AML model has demonstrated that following a systemic introduction of leukemia cells, T cells specific for leukemia-derived antigens underwent abortive proliferation and were deleted from the host. This deletional tolerance in mice with established AML was reversible upon administration of an agonistic anti-CD40 antibody to activate host dendritic cells (DCs), and argued that these cells may play a dominant role in tolerance induction to AML. Investigation of the DCs populations which engulfed AML cells *in vivo*, and which were likely promoting T cell tolerance, led to the critical observation that AML cells were phagocytosed exclusively by CD11c+CD8 α + DCs (CD8 α + DCs). CD8 α +, but not CD8 α - DCs purified from mice following an intravenous inoculation of AML cells, were able to cross-present leukemia-derived antigens to T cells *in vitro*, providing strong evidence that CD8 α + DC generate T cell tolerance to AML. Ongoing work utilizing mice deficient in particular DC subsets is focused on identifying a functional link between CD8 α + DCs and T cell tolerance. Additionally, the receptors expressed selectively on CD8 α + DCs which facilitate phagocytosis and cross-presentation of leukemia derived antigens are under investigation.

Authors' details

¹Committee on Immunology, University of Chicago, Chicago, IL, USA.

²Department of Medicine, University of Chicago, Chicago, IL, USA.

¹Committee on Immunology, University of Chicago, Chicago, IL, USA
Full list of author information is available at the end of the article

Published: 7 November 2013

doi:10.1186/2051-1426-1-S1-P158

Cite this article as: Kline et al.: CD8 α + dendritic cells dictate immune responses against murine AML. *Journal for ImmunoTherapy of Cancer* 2013 **1**(Suppl 1):P158.

**Submit your next manuscript to BioMed Central
and take full advantage of:**

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

Submit your manuscript at
www.biomedcentral.com/submit

