Retrovirology

Poster presentation

Circulating Human Vγ2/Vδ2 T Cells Express Cytoplasmic RANTES

Ilia Tikhonov*‡[1], S Berg-Dixon[1], V Lukyanenko[2], C Deetz[1] and D Pauza[2]

Address: [1]Institute of Human Virology, University of Maryland Biotechnology Institute and [2]Medical Biotechnology Center, University of Maryland Biotechnology Institute

* Corresponding author ‡Presenting author

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A likely process of chronic positive selection produces the highly biased peripheral blood γδ T-cell repertoire of adult human beings. The major blood subset expresses the Vγ2Vδ2 T-cell receptor and responds to phosphoantigen stimulation in the absence of MHC restriction. Chronic expansion of γδ T-cell pool is expected to produce a population of cells with the effector/memory phenotype. A CC chemokine RANTES is produced late after TCR stimulation of αβ T-cells, accumulates into the cytoplasm and represents a marker for non-naïve T-cells. We demonstrate here that the vast majority of peripheral human T-cells contain RANTES in the cytoplasmic granules. *In vitro* expansion after non-peptidic phosphoantigen stimulation mimics the normal γδ T cell response to pathogens, and produces polyclonal Vγ2/Vδ2 cell population uniformly positive for cytoplasmic RANTES. These cells readily release RANTES from cytoplasmic depots into the culture medium after TCR stimulation. The presence of stored RANTES suggests a memory phenotype and may mediate effector functions of circulating Vγ2/Vδ2 cells. Phosphoantigen-responsive Vγ2/Vδ2 T cells represent 1 in 40 of circulating CD3+ lymphocytes; this is the dominant central memory population in primate peripheral blood that can evolve directly into an effector memory pool.