Retrovirology



Poster presentation



# IBL4, A B cell line derived from an AIDS-related lymphoma, is a novel tumor stimulator and target for Vy2Vd2 T cell

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*from* 2006 International Meeting of The Institute of Human Virology
Baltimore, USA. 17–21 November, 2006

Published: 21 December 2006

*Retrovirology* 2006, **3**(Suppl 1):P24 doi:10.1186/1742-4690-3-S1-P24



Vg2Vd2 T cells are the predominant peripheral blood subset of – T cells and recognize tumor cells in a TCR-dependent, MHC-unrestricted manner. Following HIV infection there is a rapid and targeted depletion of circulating, anti-tumor Vy2Vd2 T cells with concomitant increases in B cell lymphoma incidence. We hypothesized that the specific depletion of Vy2Vd2 T cells after HIV compromises an important tumor surveillance system and directly contributes to the increased incidence of B cell lymphoma observed in HIV-positive cohorts. To test this hypothesis we collected tumor cell lines derived from clinical cases of AIDS-related lymphoma and tested them for susceptibility to Vy2Vd2 cytotoxicity and ability to stimulate Vy2Vd2 T cell proliferation from PBMC in vitro. Several tumor cell lines including Daudi, KSY1 and IBL4 were recognized and lysed by polyclonal Vy2Vd2 T cell effectors in a dose-dependent manner. We screened several irradiated AIDS-derived tumor lines in vitro for the capacity to stimulate Vy2Vd2 T cells and identified IBL4 as a novel tumor stimulator for the Vy2Vd2 subset that skewed the Vy2 repertoire toward longer chain lengths without affecting the overall distribution of Vy2 chain lengths and without obvious tumor-specific CDR3 sequences commonality among responding blood donors. These data provide important insight into tumor recognition by Vy2Vd2 T cells and justify chemotherapeutic approaches using alkylphosphate stimulation to boost the frequency and tumor effector function of circulating Vy2Vd2 lymphocytes.