J Clin Cell Immunol 2015, 6:5
http://dx.doi.org/10.4172/2155-9899.C1.025

OMICS International
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4th International Conference and Exhibition on
Immunology
September 28-30, 2015 Crowne Plaza Houston River Oaks, Houston, TX, USA

Generation of Tcd8+ lymphocytes in patients with chronic myeloid leukemia in Venezuelan's population

Sergio Rivera[1], Echeverría Miriam[1], Pedro Salcedo[1], Georgina Marquez[2], Zuhey Carrillo[2], Yennis Parra[2], Atilio Farruco[1], Ana María Cipriani[1] and Alvarez Demon M[3]
[1]University of Zulia, Venezuela
[2]Blood Bank of Zulia State, Venezuela
[3]University of Alcalá de Henares, Spain

Chronic myeloid leukemia (CML) in humans is a clonal myeloproliferation caused by a neoplastic transformation of a pluripotential stem cell, characterized by a striking overproduction of granulocytes. Its diagnosis is established by identifying the clonal expansion of hematopoietic stem cell which has a reciprocal translocation between chromosome 9 and 22. The association of leukemia and the major histocompatibility complex (MHC) originates from studies on the Gross virus, inducing murine leukemia, in which it was observed that mice carrying the H-2^k haplotype more rapidly succumbed to leukemia than those mice which had the H-2^d haplotype. This study confirms the HLA-DRB1*14 positive and DRB1*13 negative association with CML in Venezuelan's mestizos. The DRB1*14:21 subtype was the most frequent in CML patients, absent in DRB1*14 controls. DRB1*14 patients reacted in 48 hours mixed culture versus DRB1*14 responders mitomycin inactivated, exhibiting increased CD8+ lymphocytes and CD4/CD8 ratio decreased evaluated by cytofluorometry. CML patients were mostly serologically negative to adenovirus unlike controls and patients with Acute Lymphoid Leukemia (ALL), which were mostly IgM positive. CML patients and not controls reacted to the adenovirus peptide sequence LLERRRA, increasing CD4+ and CD8+ T cells. These results let the association link LMC/HLA-DRB1*14 with the generation of autoreactive CD8+ T cell memory, probably specific from peptide sequence of adenovirus in leukemias.

sergio.rivera54@hotmail.es