# Alterations in the Lymphocyte Populations in Bladders and Kidneys of Human Immunodeficiency Virus 1 Transgenic Mice

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**INTRODUCTION AND OBJECTIVE:** Urological and kidney complications can occur in patients living with HIV and may shorten the lifespan of patients, although current antiretroviral therapy has led to a significant improvement in the life expectancy of persons living with HIV. The spectrum of HIV associated complications can be related to the local and systemic immune response and additional factors such as infection and treatment. The objective of this study is to determine the lymphocyte populations in the bladders, kidneys, and spleens of HIV-1 transgenic mice to identify if there are alterations in the immune cell populations.

**METHODS:** Mice were genotyped using PCR to identify Wild Type (WT) and HIV transgenic mice (TgFVB). Cells were then isolated from kidneys, bladders, and spleens of WT and TgFVB mice. The immune cells were prepared and analyzed by flow cytometry, to identify CD4, CD8 and Natural Killer (NK) cells, using Flow Jo software.

**RESULTS:** We have developed a flow cytometry panel to evaluate the lymphocyte populations isolated from the bladders and kidneys of TgFVB and WT mice. Our preliminary findings indicate a shift in the lymphocyte populations with a greater percentage of CD8+ T-cells observed in the bladders and kidneys of TgFVB mice compared to WT mice.

**CONCLUSIONS:** We observed alterations in the lymphocyte populations in the bladders and kidneys of the TgFVB mice compared to the WT mice. Our future work will include deep phenotyping of the lymphocyte population including markers for activation and exhaustion.