Retrovirology



Poster presentation



# Vitamin A deficiency and proinflammatory cytokine, mu opioid receptor, and HIV expression in the HIV-1 Tg rat

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## Background

Drug users with HIV-1 infection are at increased risk for the development of HIV-related complications that may be exacerbated by vitamin A deficiency.

## Materials and methods

T cells in whole blood samples from transgenic (Tg) and non-Tg rats on either a vitamin A deficient (VA-) or normal (VA+) diet were examined for interferon (IFN)-y, tumor necrosis factor (TNF)-y, mu opioid receptor (MOR), and HIV-1 expression before and after stimulation with phytohemagglutinin (PHA) by PCR and flow cytometry and in enzyme immunoassays.

## Results

PHA-stimulated T cells from VA-/Tg rats produced higher percentages of IFN-y + T cells, secreted the highest levels of TNF-y, and showed the greatest expression of MOR. In addition, gp120 and nef gene expression was higher for T cells from VA-/Tg rats than from VA+/Tg rats.

## Conclusion

These data, obtained in the HIV-1 Tg rat, suggest that vitamin A deficiency in drug users may promote HIV disease progression through effects on proinflammatory cytokine, HIV protein, and MOR expression.