

# The Antiviral and Immunological Effects of Intensification of Suppressive ART with Maraviroc, a CCR5 Antagonist

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## Background and Hypothesis

- GI tract mucosal CCR5+CD4+ T cells are selectively infected & depleted during acute HIV-1 infection
- Despite suppressive ART, mucosal T cell depletion and activation persist
- ? Hypothesis  
If this results from ongoing HIV-1 replication during ART then...
- Intensification with the CCR5 antagonist Maraviroc (MVC) could:  
 ↑ Immune Reconstitution   ↓ Decrease immune activation

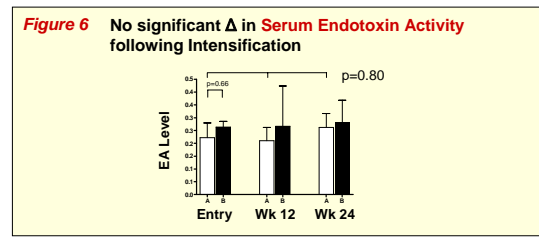
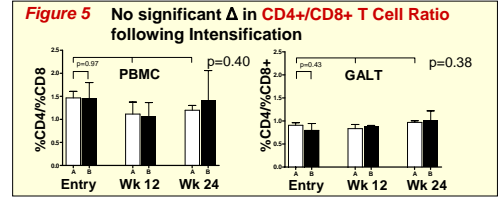
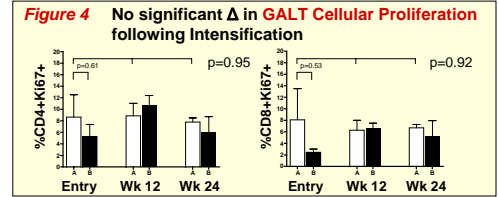
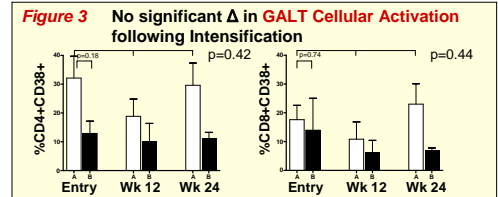
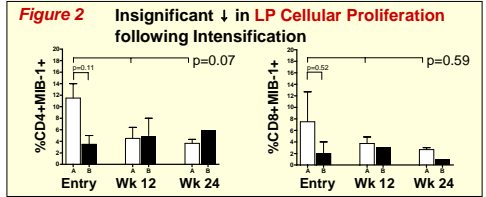
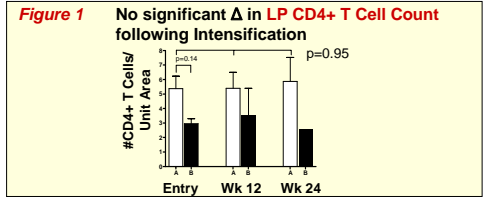
## Experimental Approach

- Enrolled adults with CCR5-tropic HIV-1, initiating ART in acute/early infection, with plasma HIV-1 VL < 50 copies/ml > 6m
- Randomized 2:1 to **Intensification of Standard ARV therapy** with:
 

|  |   |
|--|---|
| <b>Arm A</b><br>MVC for 24 weeks (n=4) | <b>Arm B</b><br>NRTI for 12 weeks followed by crossover to MVC for 12 wks (n=2) |
|--|---|
- Phlebotomy and flexible sigmoidoscopy with biopsies at Entry, Week 12 & Week 24

## Results

- Plasma HIV-1 RNA remained <50 copies/ml for all participants throughout the study
- GI biopsy RNA revealed <50 copies of HIV-1 gag for all participants at entry through week 24 (mean input of 1.5x10<sup>6</sup> copies of GAPDH/sample)
- At entry, no significant differences (p > 0.05) between arms A and B were measured for all evaluated parameters



## Conclusions

- We observe **no statistically significant effect of intensification of suppressive ART with maraviroc** on a variety of immunologic and virologic parameters in the GALT
- As previously reported, levels of immune activation (data not shown) and CD4+ T cell depletion in the GALT persist when compared to PBMC
- Caveats - Thus far n=6; We observed low baseline levels of HIV-1 gag in GALT, which are unaffected by intensification