

# PhD defence Philipp Adams

## Exploring biomarkers of the viral reservoir and anti-viral CD8+ T cell responses towards a functional cure of HIV-1

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Institute of Tropical Medicine - Antwerpen



Dit is de omschrijving

### Supervisors:

- Dr. Carole Seguin-Devaux (Luxemburg Institute of Health)
- Prof. Dr. Guido Vanham (ITM, University of Antwerp)

### Abstract:

Antiretroviral therapy (ART) halts progression to AIDS but is not curative due to persisting viral reservoirs in CD4 + T cells. The total removal of HIV-1 reservoirs from the body ("sterile cure") has proven impractical to date due to its high diversity and early seedings in tissues. However, ART free remission while HIV-1 remains detectable, termed a functional cure, might be in closer reach. It is current consensus that a combination of depleting the reservoir and improving host mediated clearance would most likely lead to viral control. To this end the present PhD thesis aimed to characterize tissue HIV-1 reservoirs in humanized mice and CD8+ T cell subsets associated with improved in vivo control of HIV-1. Our results emphasize the importance of early treatment to reduce tissue reservoirs and "post-treatment control in some animals after therapy interruption. Moreover, we show that the superior viral suppression capacity by CD8+ T cells from elite controllers is associated with very particular profiles of cytotoxic, cytokine and membrane markers.