Lenine Liebenberg

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South Africa

Mucosal Immunology

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I obtained my B.Sc Honours, M.Sc and PhD at the University of Cape Town, focusing my research on the measurement of mucosal immune responses to HIV in the female genital tract. I have since extended this interest to a Post-Doctoral career at CAPRISA (Durban, South Africa). My research training includes isolating and cloning T cells from the female genital tract (Liebenberg *et al*., 2010, 2011), evaluation of cellular responses to HIV in acute and chronically infected women by intracellular cytokine staining and flow cytometry; and assessment of biomarkers for HIV susceptibility in the female genital tract of exposed but uninfected women (Jaspan *et al*., 2011). Because the non-invasive sampling techniques available recover a yield of genital tract lymphocytes tremendously reduced compared to that in blood, genital mucosal immunology is still considerably understudied relative to blood. My postgraduate career has been focused on investigating the immune milieu of the female genital tract, particularly in the context of HIV; and I maintain an interest in novel technologies to investigate genital tract immune environment.

CURRENT RESEARCH

Topic	Methodology	Application
Investigating causes and consequences of genital inflammation	• Investigating causes and consequences of genital HPV infection • Investigating the association between genital immune activation and inflammation • Investigating the relationship between sexually transmitted infections and inflammation	Roche Linear Array; Bio-Rad Luminex Technology; Flow cytometry; PCR-multiplexing assays

Because genital inflammation is associated with risk of HIV infection, understanding the causes and downstream consequences of genital inflammation will shed light on focused interventions to prevent the spread of HIV

UKZN main Publications

1. None yet

Past Researches

1. Roberts L, Liebenberg LJ, Barnabas S, and Passmore JA. 2012. Vaginal microbicides to prevent human immunodeficiency virus infection in women: Perspectives on the female genital tract, sexual maturity and mucosal inflammation. Best Pract Res Clin Obstet Gynaecol. 26:441-9.
2. Olivier AJ, Liebenberg LJ, Coetzee D, Williamson AL, Passmore JA, and Burgers WA. 2012. Isolation and characterization of T cells from semen. J Immunol. Methods. 375:223-31.
3. Jaspan HB, Liebenberg LJ, Hanekom W, Burgers W, Coetzee D, Williamson A-L, Little F, Myer L, Coombs RW, Sodora D, Passmore J-A. 2011. Immune Activation in the Female Genital Tract During HIV Infection Predicts Mucosal CD4 Depletion and HIV Shedding. Journal of Infectious Diseases. 204:1550–1556. (Corresponding Author)
4. Liebenberg LJ, Gamieldien H, Mkhize NN, Jaumdally SZ, Gumbi PP, Denny L, Passmore JS. 2011. Stability and transport of cervical cytobrushes-derived mononuclear cells from the female genital tract. J. Immunol. Methods. 367:47-55.
5. Liebenberg L, Adedeji AL, Martin DP, Gumbi PP, Denny L, and Passmore J-A. 2010. CD57 expression by T cells in the female genital tract of HIV-1 infected women. Clinical Immunology, 135:137-145.
6. Mkhize NN, Gumbi PP, Liebenberg LJ, Ren Y, Smith P, Denny L, and Passmore J-A. 2010. Persistence of genital tract T cell responses in HIV-infected women on highly active anti-retroviral therapy (HAART). J Virology, 84:107655-72.

Future Interests

1. Developing a cheap, effective, STI diagnostic tool based on my investigations into biomarkers of HIV risk
2. Developing a cheap, effective HIV risk diagnostic tool

Extra Interests

Traveling, hiking, flea-marketing, meeting more people interested in curbing HIV infection in women