



CAPRISA

CENTRE FOR THE AIDS PROGRAMME OF RESEARCH IN SOUTH AFRICA

Newsletter

In this Issue

In the June/July issue of the CAPRISA Newsletter, we present a range of informative articles that reflect our commitment to research, community engagement, and healthcare improvements.

On page 1, we delve into a review of Broadly Neutralising Antibodies for HIV Prevention.

Page 2 features highlights from the AIDS 2024 Conference in Munich, Germany.

Learn about CAPRISA's commemoration of Mandela Day 2024 and insights from TB/HIV Collaborative Activities at the AIDS 2024 Conference on page 3.

Discover CAPRISA's impactful initiatives with the Young Adults Working Experience Programme and school uniform donations on page 4.



Turn to page 5 for insights on Vaginal Microbiome Research, MATRIX CaSE Track 1 Fellowship acceptance, and more. Lastly, explore the latest research output through a list of new publications on page 6.

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A Comprehensive Review and Future Perspectives on Broadly Neutralising Antibodies for HIV Prevention

Dr Sharana Mahomed's review entitled "Broadly Neutralizing Antibodies for HIV Prevention: A Comprehensive Review and Future Perspectives" was published in *Clinical Microbiology Reviews*. Broadly neutralising antibodies (bNAbs) offer an alternative strategy for HIV prevention through passive immunisation. Historically, passive immunisation has been efficacious in the treatment of various diseases ranging from oncology to infectious diseases. This seminal paper provides an in-depth analysis of the development, functionality (Figure 1), and safety profile of bNAbs, alongside their efficacy as demonstrated in clinical trials thus far.

Dr Mahomed discusses the challenges and advancements in the field, including the engineering of bNAbs to enhance their potency, stability, and manufacturability. The paper also addresses the significant hurdles, such as bNAb resistance, and the economic and logistical challenges in implementing these therapies in resource-limited settings.

As the global health community continues to seek innovative solutions to the HIV epidemic, this review serves as a resource, offering critical insights that will guide future research and application of bNAbs in HIV prevention strategies. We encourage our readers to explore this comprehensive review to gain deeper insights into the future of HIV prophylaxis and the role of bNAbs in global health strategies.

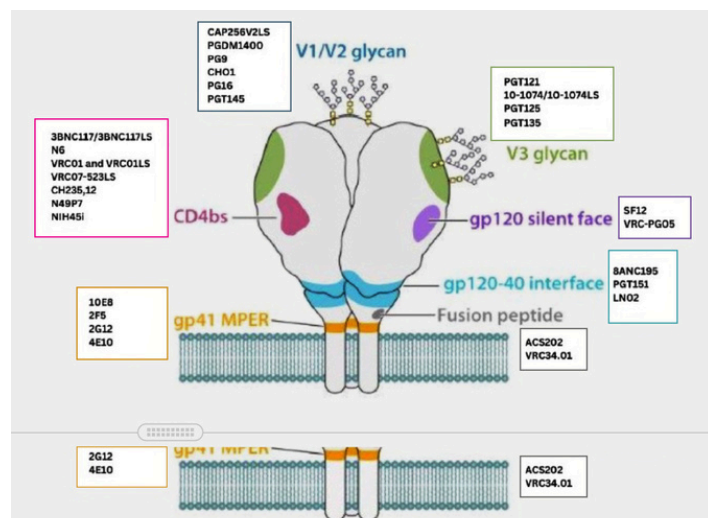


Figure 1: HIV Env epitopes- bNAbs targeting the major Env epitopes are the V3 glycan, V1V2 glycan, CD4 binding site; fusion peptide, gp41 membrane proximal region (MPER), gp120–41 interface.

For further reading: <https://journals.asm.org/doi/10.1128/cmr.00152-22>

Highlights from the AIDS 2024 Conference in Munich, Germany

The AIDS 2024 conference in Munich, Germany, provided a platform for scientific exchange and networking.

Professor Nigel Garrett, Head of Vaccine and Pathogenesis Research at CAPRISA, co-chaired the session titled Discovery Medicine Trials for HIV Vaccines—Identifying key lessons, Challenges, and Opportunities for Strengthening local preparedness and Regional Partnerships in Africa. Professor Garrett also presented the primary outcome results of the STREAM HIV trial, sharing insights on tenofovir-diphosphate concentrations and viral suppression following monthly point-of-care urine tenofovir testing among adults initiating antiretroviral therapy during the Co-Chairs' Choice late-breaker abstract session.

Ms Makhosazane Zondi presented her qualitative research on the urine tenofovir adherence assay in the STREAM HIV trial, focussing on the acceptability of point-of-care urine tenofovir testing for ART adherence monitoring in South Africa in a poster presentation.

Dr Dorward represented the CAPRISA SHAPE team in collaboration with Discovery Health, where he presented research findings on the risk of major cardiovascular events with dolutegravir versus efavirenz-based antiretroviral therapy: retrospective cohort analyses using routine, de-identified data from South Africa in the “Co-morbidities: The Heart of the Matter” session.

Dr Anushka Naidoo shared compelling pre-screening data from the CAPRISA 093 INSIGHT trial, revealing that symptomatic TB was a significant factor driving engagement or re-engagement in care for individuals with HIV. This data was presented at the session on “Differentiated strategies to support sustained engagement and re-engagement in HIV services in eastern and southern Africa,” which also marked the launch of the July 2024 WHO policy brief “Supporting re-engagement in HIV treatment services.”





Mandela Day 2024 at CAPRISA

Mandela Day is celebrated annually on July 18th in honour of President Nelson R. Mandela's legacy and his contributions to peace, social justice, and freedom. On July 18, 2024, people around the world were encouraged to devote 67 minutes of their time—one minute for each year Mandela fought for social justice—to community service, charitable activities, or acts of kindness, reflecting his values of humility, forgiveness, and unity.

To commemorate this special day at CAPRISA, employees spent their 67 minutes by contributing a minimum of R10 for them to imprint their palms onto a blank canvas in the South African national flag colours. This unique imprint displayed their commitment to unity, diversity, and humility, and CAPRISA staff were able to raise a total of R2 526.00. The CAPRISA Cares committee further celebrated Mr Mandela's legacy of unity, service, and compassion by donating R50 000.00 to Gift of the Givers, an NGO based in Durban. Gift of the Givers focuses on disaster response, hunger alleviation, water provision, healthcare, education, and human development. Therefore, the donation made will be impactful to the Durban community.

Advancing TB/HIV Collaborative Activities: Key Insights from the AIDS 2024 Consultation



Dr Anushka Naidoo was invited to present at the World Health Organization high-level international consultation held on Sunday, 21 July 2024. This consultation, entitled “Shaping the future: A look beyond 20 years of scale-up of collaborative TB/HIV activities,” was held prior to the 25th International AIDS Conference (AIDS 2024) in Munich.

Dr Naidoo's presentation titled “Treating HIV and TB: research landscape and priorities for ending TB deaths among people with HIV by 2030” was well received. The consultation reviewed global and regional progress in addressing HIV-associated TB since the first WHO policy on TB/HIV collaborative activities was published in 2004, and identified key challenges and opportunities for implementation of TB/HIV activities and in addressing key research gaps needed to achieve global targets by 2030. Dr Tereza Kasaeva, Director of the World Health Organization Global Tuberculosis Programme, expressed gratitude to Dr Naidoo for her participation, indicating that this meeting helped to fix the importance of HIV-associated TB in everyone's minds for further consideration and dissemination within the main conference and beyond.

CAPRISA Hosts Young Adults Working Experience Programme

CAPRISA hosted the Young Adults Working Experience Programme from the 19th to the 21st of June 2024. The initiative was tailored to provide grade 11 and 12 learners with valuable insights and guidance as they navigate critical career decisions.

The primary objective was to empower young learners to make informed career choices and equip them with essential knowledge and inspiration for their future paths. During this immersive experience, participants had the opportunity to explore study options aligned with their aspirations, engage with professionals across various fields, and gain practical experience in a supportive and enriching environment. This exposure not only provided valuable insights but also inspired them to pursue their aspirations with newfound clarity and determination, setting a strong foundation for their future journeys.



CAPRISA and Partners Donate School Uniforms to Umlazi Learners



The Community Programmes division of CAPRISA, under the leadership of Mr Patrick Mdletshe, recently awarded complete sets of school uniforms to 31 learners from six schools in the Umlazi area within the eThekweni District on June 14, 2024, at Umlazi Cinema. This initiative was made possible through a joint outreach programme involving CAPRISA, the Ningizimu TWO Regional Office (uMlazi), the South African National Taxi Council (SANTACO) KZN Sub-region, and the dedicated teachers who selflessly contributed their time and efforts during the uniform presentation. The provision of these uniforms will benefit the learners, contributing to their sense of belonging and pride in their education.

CAPRISA Promotes Sexual Health Education at Vulindlela High Schools



Mr Patrick Mdletshe, the Head of Community Programmes at CAPRISA, along with CAPRISA PhD and Master's Fellows and Vulindlela interns, visited Vulindlela local high schools, Ncedomhlophe and Asibemunye High School, to engage in educational dialogue on sexual health and reproductive health rights (SRHR) with the learners. This included discussions on tuberculosis, teenage pregnancy and prevention, sexually transmitted infections (STIs), and HIV/AIDS, aimed at addressing the rising HIV/AIDS infection and teenage pregnancy rate among young girls.

CAPRISA's school visits represent an investment in health education by providing accurate information and tools for informed decision-making among youth, contributing to a healthier society.

Alicia Desmond and Sherishka Dhindoyal accepted into the MATRIX CaSE Track 1 Fellowship

CAPRISA's Alicia Desmond and Sherishka Dhindoyal have been accepted into the MATRIX CaSE Track 1 Fellowship. Scheduled from July 15th to November 30th, this fellowship offers a transformative platform for Alicia and Sherishka to propel their academic and professional growth. Throughout the fellowship, they will immerse themselves in a diverse array of activities and projects, engaging in a structured curriculum, mentorship opportunities, and collaborative initiatives with fellow scholars.

Vaginal Microbiome Research at the Annual VMRC Meeting in Spain

CAPRISA scientists and Research Associates attended the Vaginal Microbiome Research Consortium (VMRC) Annual Meeting held in Sitges, Spain, from the 4th to the 7th of June 2024. The VMRC, supported and funded by the Gates Foundation, is a consortium of scientists from the United States, Africa, and South Asia that work together to identify correlates of stability and resilience in the vaginal microbiota and leverage these to design an intervention to maintain or restore vaginal health.

Dr Disebo Potloane, Dr Sinaye Ngcapu, Dr Cecilia Milford, Dr Desh Archary, Mr Callin Chetty, Dr Gugulethu Mzobe, and Dr Andile Mtshali represented CAPRISA, with Drs Potloane, Ngcapu, and Milford presenting study updates, participating in various panel discussions, and leading multiple breakout sessions at the convening. Dr Potloane and Dr Milford provided updates on the Vaginal Live Biotherapeutic RANdomized Trial–VIBRANT, and the VIBRANT Qualitative Study, respectively. VIBRANT is a Phase I trial of a novel live biotherapeutic product (LBP) containing multiple strains of *L. crispatus*. The study will compare the safety and biologic effects of two formulations of a consortia of *L. crispatus* strains in women with bacterial vaginosis (BV). The qualitative study will explore the experiences and preferences of women using the LBP as part of the VIBRANT trial. Dr Ngcapu presented on the CAP098-BV study, which aims to determine the impact of BV treatment on the vaginal microbiota, *Gardnerella vaginalis* resistance, and the recurrence or persistence of BV following treatment. CAP098 will also assess the in vitro efficacy of the endolysin BNT331 against *Gardnerella* strains and other BV-associated bacteria using the human Vagina Chip and eVOLVER models.

A SELECTION OF PUBLISHED SCIENTIFIC PAPERS

- 34 **Asare K**, Sookraj Y, **van der Molen J**, Khubone T, Lewis L, **Lessells RJ**, **Naidoo K**, Sosibo P, van Heerden R, **Garrett N**, **Dorward J**. Clinical outcomes with second-line dolutegravir in people with virological failure on first-line non-nucleoside reverse transcriptase inhibitor-based regimens in South Africa: a retrospective cohort study. *The Lancet Global Health*, 2024; 12(2): e282-e291. doi: 10.1016/S2214-109X(23)00516-8.
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- 36 Takalani A, Robinson M, Jonas P, Bodenstien A, Sambo V, Jacobson B, Louw V, Opie J, Peter J, Rowji P, Seocharan I, Reddy T, Yende-Zuma N, Khutho K, Sanne I, Bekker LG, Gray G, **Garrett N**, Goga A; Sisonke Study Team. Safety of a second homologous Ad26.COV2.S vaccine among healthcare workers in the phase 3b implementation Sisonke study in South Africa. *Vaccine*. 2024 Feb 27;42(6):1195-1199. doi: 10.1016/j.vaccine.2024.01.066.
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- 39 Bhattacharya D, Guo R, Tseng CH, Emel L, Sun R, Zhang TH, Chiu SH, Stranix-Chibanda L, Chipato T, Ship H, Mohtashemi NZ, Kintu K, Manji KP, **Moodley D**, Maldonado Y, Currier JS, Thio CL. Hepatitis B virus clinical and virologic characteristics in an HIV perinatal transmission study in sub-Saharan Africa. *AIDS*. 2024 Mar 1;38(3):329-337. doi: 10.1097/QAD.0000000000003752. Epub 2023 Oct 17. PMID: 37861675.
- 40 **Dorward J**, Govender K, Moodley P, **Lessells R**, **Samsunder N**, Sookraj Y, Fanshawe TR, Turner PJ, Butler CC, Drain PK, Hayward GN, **Garrett N**. Urine tenofovir and dried blood spot tenofovir diphosphate concentrations and viraemia in people taking efavirenz and dolutegravir-based antiretroviral therapy. *AIDS*. 2024 Apr 1;38(5):697-702. doi: 10.1097/QAD.0000000000003818. PMID: 38126342; PMCID: PMC7615742.
- 41 Aizire J, **Yende-Zuma N**, **Hanley S**, Nematadzira T, Nyati MM, Dadabhai S, Chinula L, Nakaye C, Fowler MG, Taha T; US-PEPFAR PROMOTE Cohort Study team. Unintended pregnancy and contraception use among African women living with HIV: Baseline analysis of the multi-country US PEPFAR PROMOTE cohort. *PLoS One*. 2024 Mar 11;19(3):e0290285. doi: 10.1371/journal.pone.0290285. PMID: 38466748; PMCID: PMC10927155.
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* continuation from previous newsletter

For the complete list of publications see here: <http://bit.ly/3IRvJzd>



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