

COULD ACTIPHAGE PROVIDE RAPID TB TEST IN SUB-SAHARAN AFRICA?

PBD Biotech collaborates on project to assess potential of its rapid blood test

Human Tuberculosis is second only to Covid-19 as a fatal infectious disease, with over 1.5 million people dying from TB in 2020. The World Health Organization has released several high priority target product profiles for TB diagnostics, highlighting the critical need for a non-sputum based rapid test for diagnosing TB disease. To address this unmet need, PBD Biotech is collaborating with the London School of Hygiene and Tropical Medicine UK, Zambart in Zambia and the University of Leicester UK, on a project in Lusaka, Zambia to test the sensitivity of its Actiphage blood test for *Mycobacterium tuberculosis*, the cause of TB.

Sub-Saharan Africa is devastated by TB disease. The project will focus on Zambia, which has a high TB/HIV burden – 59,000 people developed TB in 2020, of which 23,000 also had HIV, and 15,000 died of the disease. The country has a population of just 19.4m so the disease has considerable social and economic impact.

Actiphage can rapidly detect the presence of the *Mycobacterium tuberculosis* in a blood sample, removing the need for the patient to produce sputum. This offers the potential to screen a high-risk population to identify people with the disease and potentially control the disease through treatment.

The research is being led by Dr Lily Telisinghe, of the London School of Hygiene and Tropical Medicine, with Dr Pranab Haldar, Clinical Senior Lecturer at University of Leicester, who led the first study showing promising outcomes using Actiphage as a blood-based TB diagnostic in a UK TB cohort, and Dr Ben Swift, Director of Research and Development at PBD Biotech.

Lily Telisinghe says: “The early human data using Actiphage in the UK are promising but need to be cautiously interpreted. Zambia is a high TB/HIV prevalence setting, with health system infrastructure and challenges that are representative of those across much of sub-Saharan Africa. We are excited to collaborate on this project, which will provide data on the feasibility of using Actiphage in the field and its sensitivity for diagnosing TB disease.”

Pranab Haldar agrees that it is an important project. “The study will provide us with valuable experience using the Actiphage test and knowledge of how it may add value in a high TB burden setting.”

Ben Swift comments: “The pandemic has highlighted the vital role of rapid detection in containing and managing infection. In pilot trials, Actiphage has been shown to be effective in detecting TB at an early stage and we are delighted to be starting a larger study in Zambia.

“Morbidity and mortality from TB are significantly increased in individuals with HIV. The incidence of both these conditions in Zambia means that an accurate diagnosis could make a massive, immediate, benefit to the lives of thousands.”

The one-year study started in January 2022.

Find out more at:

<https://www.who.int/news-room/fact-sheets/detail/tuberculosis>

https://www.stoptb.org/static_pages/ZMB_Dashboard.html

<https://www.pbdbio.com/>

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About PBD Biotech (www.pbdbio.com)

PBD Biotech Limited specialises in the use of novel bacteriophage-based technology. The company has developed proprietary, patented technology that can be used to detect the presence of mycobacteria that cause tuberculosis in humans and animals.

This includes human TB – *Mycobacterium tuberculosis* (Mtb) – where the technology has application as a screening tool, as well as Bovine TB – *Mycobacterium bovis* (m.bovis) – and *Mycobacterium avium* subsp.*paratuberculosis* (MAP; Johne's Disease), which are significant causes of morbidity and loss of productivity in the agricultural industry.