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EDCTP

RADIANT

Selected concise host transcriptional signatures for the blood-based diagnosis of active tuberculosis in an HIV-prevalent setting (RNA-based diagnosis of TB)

Abstract

A non-sputum triage test is needed as many symptomatic patients including those with HIV often cannot not produce quality sputum for current diagnostic methods. Several blood transcriptional diagnostic signatures associated with immune responses to *M. tuberculosis* disease have previously been described. However, there is lack of real-world performance data from high TB/HIV-endemic African settings where HIV infection may compromise sensitivity and previous TB disease may compromise specificity. By building on prior research that used untargeted sequencing approaches to identify candidate signatures, we can now perform targeted signature measurement at a large scale and cost-efficient manner as part of prospective diagnostic accuracy analyses in real-world settings.

Using the framework provided by the SeroSelectTB project, RADIANT aims to evaluate the diagnostic accuracy of selected concise blood transcriptional signatures for active TB among symptomatic patients in South Africa and Tanzania. Bacteriologically-negative patients classified as non-TB will be characterized to determine whether elevated host transcriptional signatures indicate other respiratory pathogens (detected in nasopharyngeal swabs using a commercial multiplex panel) and/or develop active TB within six months (incident active TB).

This study includes support for the development of scientific and mentorship skills, and capacity building. Expertise in TB diagnostics, specifically the ability to evaluate next-generation biosignatures in clinical trials, will be strengthened.

Start/end date

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