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MEDIA RELEASE:

A test to predict the risk of developing TB disease

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A landmark study published this month in the leading medical journal, *The Lancet*, reports the discovery of a blood test that can predict whether someone is likely to develop tuberculosis (TB) disease, long before the disease manifests.

TB is a global public health crisis, with more than 3,000 people dying daily from it worldwide. Infection with the bacterium *Mycobacterium tuberculosis* is thought to affect a third of the global population, 90% of whom will never develop TB disease.

With the newly discovered biomarker test we will now be able to identify three quarters of those who will progress to TB disease, ensuring early detection and benefit from health care. The “correlate of risk” blood test measures expression of a few genes, or a gene expression signature. According to Professor Willem Hanekom, principal investigator of the study, *“Importantly, the test can predict progression to TB more than 1 year before disease manifests, which provides a window of opportunity to use treatment to prevent the disease.”*

This 10-year discovery effort was led by scientists at the South African Tuberculosis Vaccine Initiative (SATVI) (University of Cape Town) and the Center for Infectious Disease Research (CIDR) in Seattle, USA. They studied gene expression patterns in blood samples selected from more than 6,000 teenagers from the town of Worcester in the Western Cape Province of South Africa, who were followed for more than 2 years to identify those who did or did not develop TB disease.

Confirmation that the gene expression signature could predict TB disease was completed using samples from another cohort of 4,500 adults from South Africa and The Gambia. These study participants were enrolled within a large international collaborative effort between researchers from South Africa, The Gambia, Ethiopia, Uganda, Kenya, Germany, The Netherlands, The United Kingdom and the USA.

The *Lancet* article crowns a decade-long series of research projects, which was funded by the Bill & Melinda Gates Foundation, the US National Institutes of Health, the European Union and the South African Medical Research Council.

In the near future, the blood test will be evaluated in a clinical trial, also funded by the Bill & Melinda Gates Foundation, to determine if targeted preventive therapy for people with a positive test can stop them from developing TB.

Professor Mark Hatherill, principal investigator of the new trial, said: “If the trial is successful, mass campaigns using a ‘screen & treat’ strategy have potential for major impact on the global epidemic, by stopping TB before it manifests and becomes infectious to others.” END

For Academic and clinical queries	For request for media interviews and media queries
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