

PRECISE-TBM

PROSPECTIVE EVALUATION AND REFINEMENT OF NOVEL
BIOMARKER-BASED POINT-OF-CARE TESTS FOR THE DIAGNOSIS
OF TUBERCULOUS MENINGITIS IN CHILDREN



FACT SHEET

 **PRECISE**
TBM

ACRONYM

PRECISE-TBM

FULL TITLE

Prospective evaluation and refinement of novel biomarker-based point-of-care tests for the diagnosis of tuberculous meningitis in children

PROGRAMME

EDCTP3

CONTRACT NUMBER

Grant Agreement N° 101248845

ABSTRACT

The overall goal of PRECISE-TBM is to improve the diagnosis and management of childhood tuberculous meningitis (TBM), the most severe form of tuberculosis, which mostly affects children. Diagnosis of TBM in children is challenging and may require up to six visits to hospitals. Furthermore, 50 % of people who are diagnosed with TBM die or suffer life-long neurological problems.

PRECISE-TBM builds on the previous identification, patenting and validation of a three-protein cerebrospinal fluid (CSF) biomarker signature, including IFN- γ , for the diagnosis of childhood TBM. Based on this biosignature, a prototype point-of-care (PoC) lateral flow test has been developed, as well as a variant of the CSF-based test using biosensor technology. In addition, blood-based biomarkers have been identified that require refinement and subsequent development into a TBM PoC test.

PRECISE-TBM brings together a multidisciplinary team with different but complementary expertise, including immunologists, human geneticists, neurologists, social scientists and an industrial partner based in South Africa. Together, this partnership aims to

Together, the consortium aims to:

- Gather evidence on the performances of the two newly developed CSF-based PoC tests at hospitals situated in South Africa, Zambia, and Zimbabwe
- Refine the previously identified blood-based biosignature in stored multi-country specimens, and incorporate the refined biomarkers into a new TBM prototype test, using biosensor technology
- Prospectively evaluate the blood-based prototype test alongside the CSF-based tests
- Test, both immunologically and genetically, defects in IFN- γ immunity, a key biomarker in the CSF-based tests, in CSF and serum samples, and ascertain the relevance of such defects to possible disease development, and their influence on PoC test results

Through these activities, PRECISE-TBM aims to advance rapid and accurate point-of-care diagnosis of childhood TBM and has the potential to significantly influence the management of childhood TBM worldwide.

DURATION

48 months (01/05/2026 – 30/04/2030)

PROJECT FUNDING

2,158,288 EUR

COORDINATOR

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CONSORTIUM

- Imagine Institut des Maladies Génétiques Necker Enfants Malades Fondation (France)
- LifeSADX (South Africa)
- LINQ Management GmbH (Germany)
- Stellenbosch University (South Africa)
- The University of Zambia
- The University of Zimbabwe

PROJECT MANAGEMENT

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PROJECT WEBSITE

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