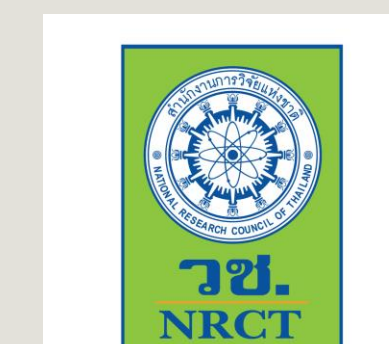


TB-LyoAmp – Freeze dried test kit for the detection of *Mycobacterium tuberculosis* in tongue swab & sputum



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We have developed a novel dry format loop-mediated isothermal amplification (LAMP)-based test for a rapid triage diagnostic test for TB named TB-LyoAmp. This kit offers several advantages including a rapid turnaround time (<2 hrs), stable at room temperature, easily interpretable results, and the ability to test non-sputum samples: tongue swab, rendering it highly suitable for rural LMIC settings.

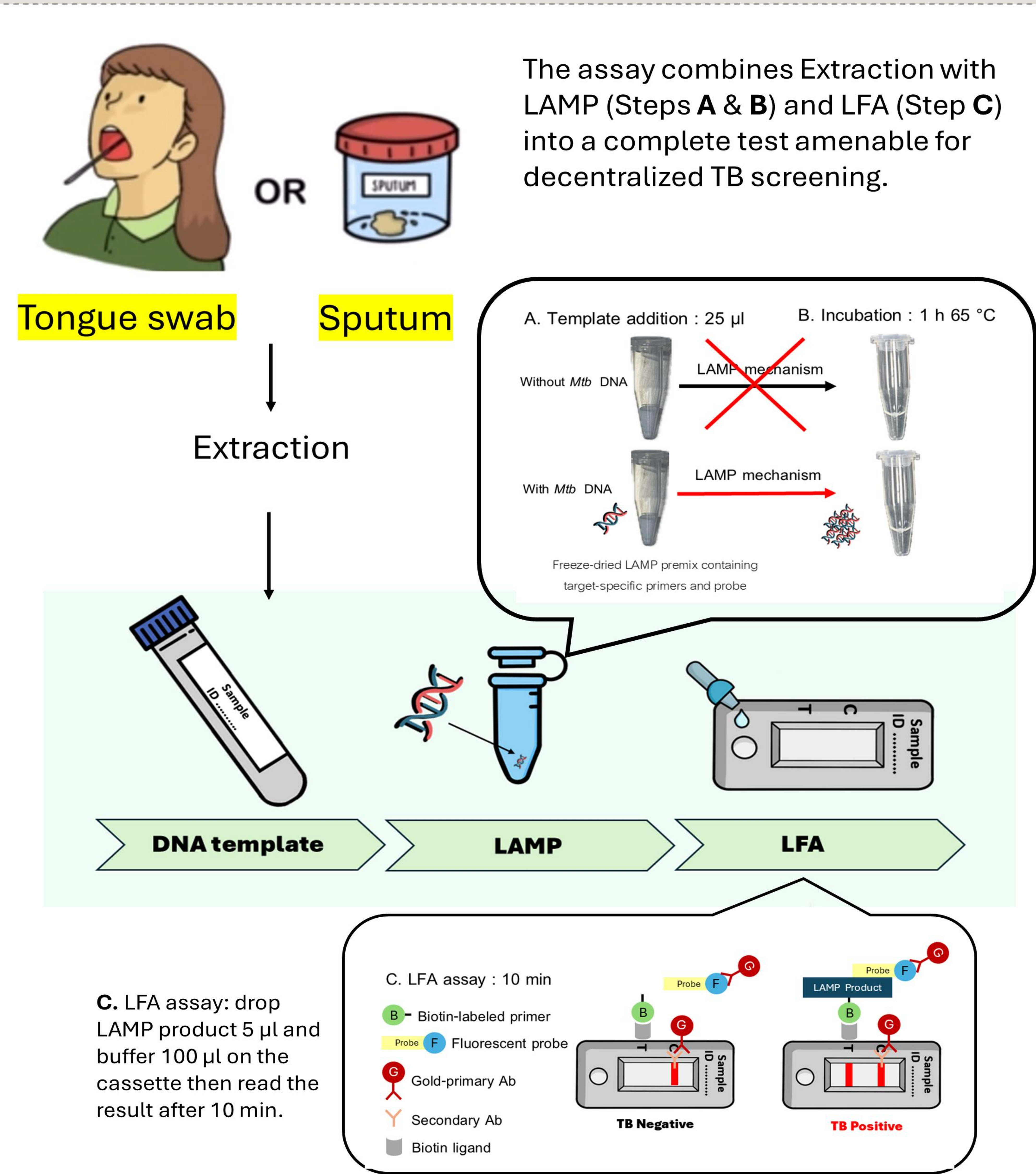
Background

Diagnosing tuberculosis (TB) remains the most challenging facet of the TB continuum of care. It is estimated that 41% of the 10 million people who contract TB annually are undiagnosed, and therefore untreated¹. This diagnostic gap is partly driven by the inaccessibility of fast turnaround, high specificity diagnostic testing, particularly in low- and middle-income country (LMIC) rural areas, leading to missed opportunities for the treatment and prevention of onward transmission.

Technology

we develop a freeze-dried LAMP-LFA test housed in a dry-cassette named “TB-LyoAmp” to detect TB in tongue swap and sputum.

Diagnostic protocol



Features

- 1. Simple Sample Collection:** Applicable for **tongue swab**, making sample collection easy even in children and elder people.
- 2. Simple Storage Condition:** **Stable at room Temp.**
- 3. High Efficiency:** unmatched specificity and a **sensitivity of 1 *Mtb* cell/reaction.**
- 4. Easy & Rapid:** turnaround time: 2 hrs.
- 5. Affordable equipment used:** hundred dollars, **over 100x cheaper than GeneXPERT machine.**
- 6. Cost/test: ~ \$7**



Advantages

- Simple with fast turnaround time (<2 h)
- Easily interpretable results**, negating the need for complicated training
- Does not require analysers**, a stable electricity supply, or a temperature-stabled environment to perform
- Dry test format** leading to long shelf-life
- Able to use with tongue swab in addition to sputum

IP & Current Status

- 1. IP:** Petty patent. Application No 2003002242
- 2. Commercial aspect:** OEM obtained for LFA manufacturing
- 3. Paper:** Jaroenram W, et al.2020. Sci. Rep 10: 16976

References

- <https://www.who.int/publications/i/item/9789240083851>
- Jaroenram W et al. (2020). Ultrasensitive detection of *Mycobacterium tuberculosis* by a rapid and specific probe-triggered one-step, simultaneous DNA hybridization and isothermal amplification combined with a lateral flow dipstick. Scientific Reports 10: 16976
- <https://www.pharca.com/accelerated-aging-calculator/>

Contact

We are seeking partners for licensing and/ or co-development opportunities to bring the technology to market. **Contact:** Wansadaj Jaroenram. Mobile: +6665 9935144 Email: wansadaj.jar@biotec.or.th