Tulane Researchers Develop First Handheld Device for Rapid, Noninvasive TB Testing

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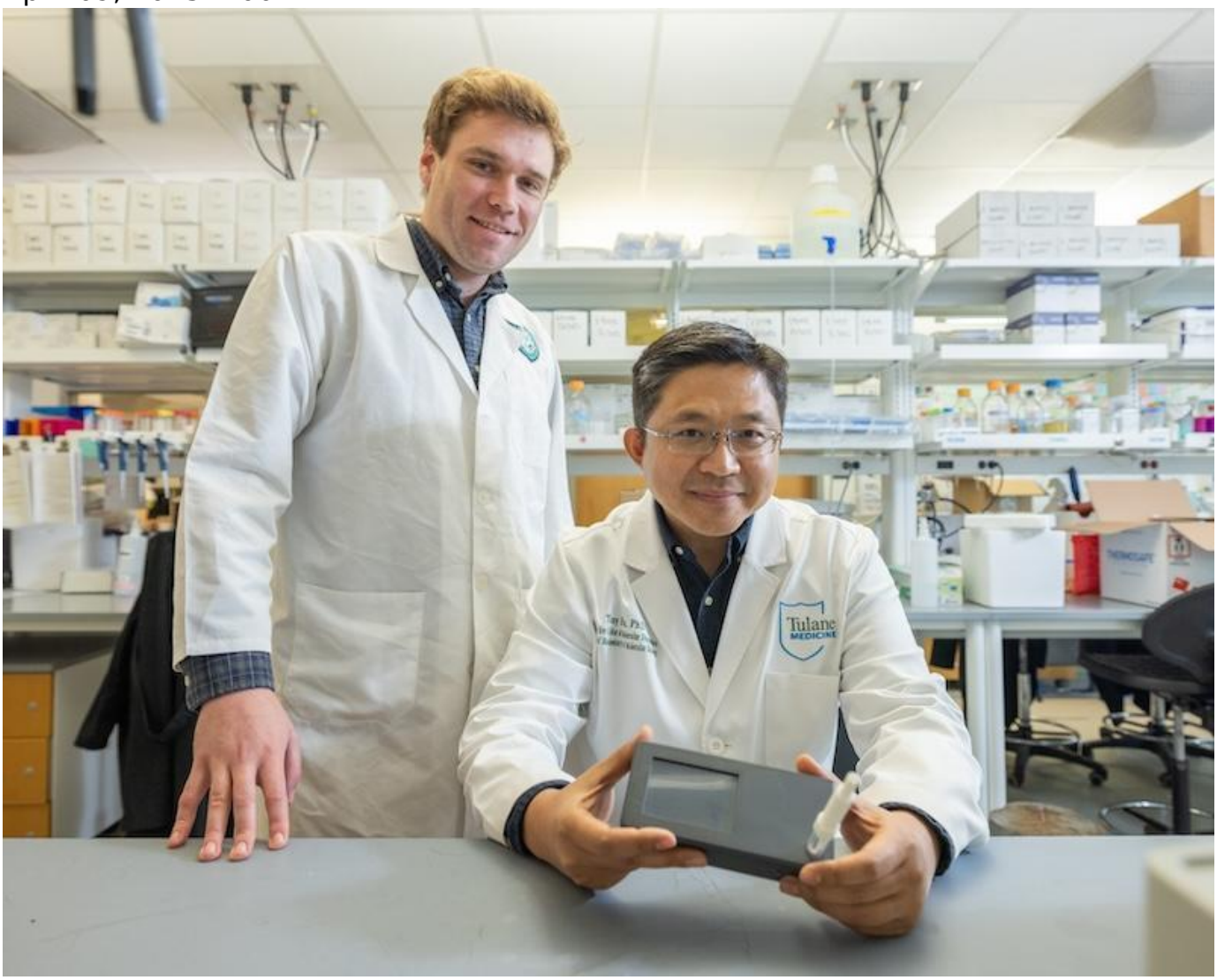

Tulane University scientists have created a groundbreaking handheld device that can diagnose tuberculosis (TB) in under an hour — and with just a saliva sample. The device, called the lab-in-tube assay (LIT), offers a cost-effective, battery-powered solution ideal for rural and resource-limited areas.

Unlike traditional methods that rely on sputum or blood, this new tool is the first to detect Mycobacterium tuberculosis DNA in saliva — a major breakthrough for diagnosing TB in children and patients with HIV who often can't produce sputum. In testing, the device outperformed much larger, more expensive machines and met World Health Organization standards for TB diagnostics.

“TB remains a critical public health concern in low-income countries,” said senior author Tony Hu, PhD. “Diagnosis using a cheap, simple test like we’ve developed is needed not only to treat patients with TB but prevent further spread of the disease.”

Each LIT device costs under $800, and individual tests cost less than $3 — a significant improvement over the $100-per-test alternatives. The study was featured on the cover of Science Translational Medicine.

Credit: Youngquist *et al./Science Translational Medicine*

Read the full article.