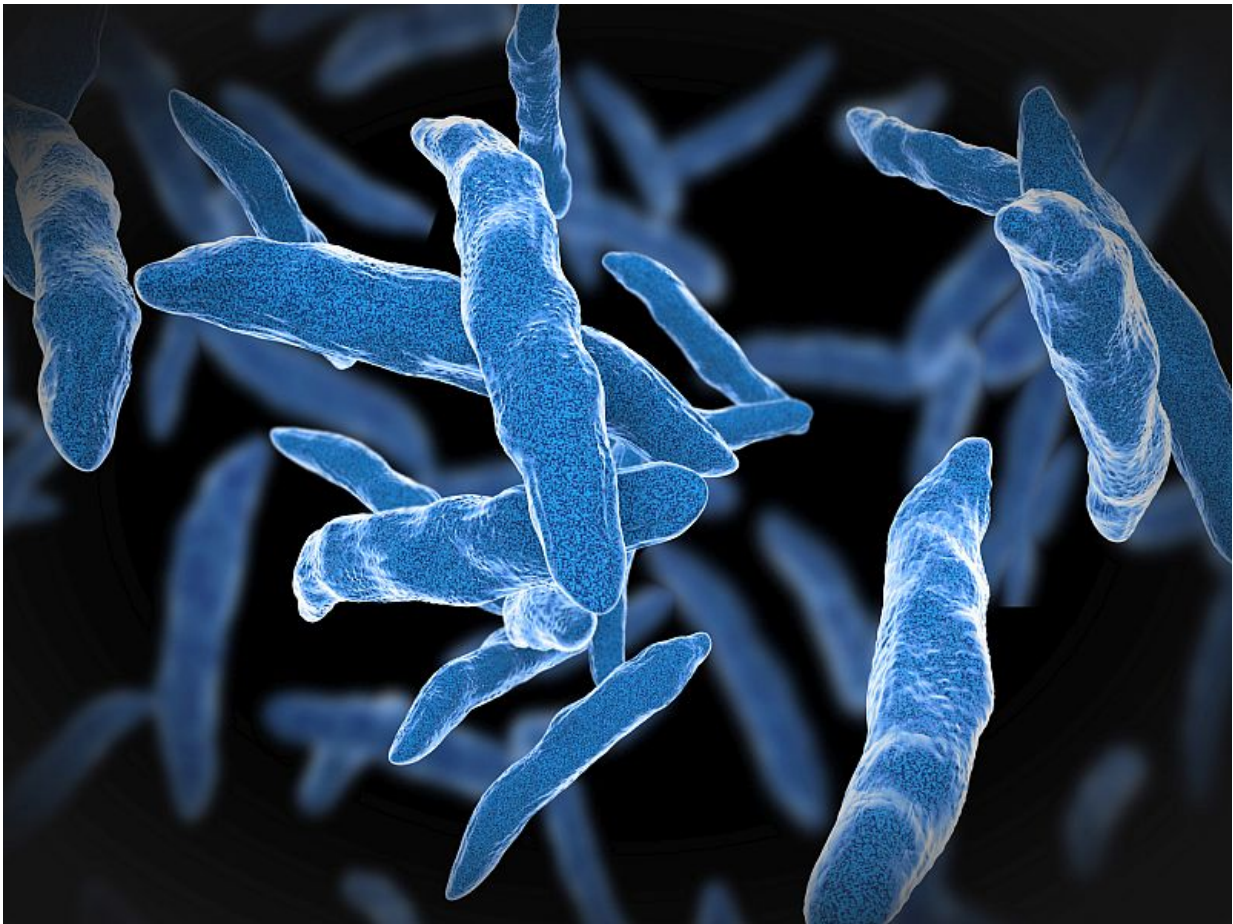


# Assay can ID *M. tuberculosis* resistance mutations

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(HealthDay)—An automated molecular assay can detect *Mycobacterium*

*tuberculosis* with resistance to drugs directly from sputum specimens, according to a study published in the Sept. 14 issue of the *New England Journal of Medicine*.

Yingda L. Xie, M.D., from the National Institutes of Health in Bethesda, Md., and colleagues compared the investigational assay against phenotypic drug-susceptibility testing and DNA sequencing among adults with symptoms of tuberculosis. The authors performed the Xpert MTB/RIF assay and sputum culture.

The researchers found that the sensitivities of the investigational assay for detecting resistance were 83.3 percent for isoniazid, 88.4 percent for ofloxacin, 87.6 percent for moxifloxacin, 71.4 percent for kanamycin, and 70.7 percent for amikacin among the 308 participants who were culture-positive for *M. tuberculosis* when phenotypic drug-susceptibility testing was used as the reference standard. For detection of phenotypic resistance the specificity of the assay was 93.4 percent or greater for all drugs except moxifloxacin at a critical concentration of 2.0 µg/mL. Using DNA sequencing as the reference standard, the sensitivities of the investigational assay for detecting mutations associated with resistance were 98.1, 95.8, 92.7, and 96.8 for isoniazid, fluoroquinolones, kanamycin, and amikacin; the specificity for all drugs was 99.6 percent or greater.

"This investigational assay accurately detected *M. tuberculosis* mutations associated with [resistance](#) to isoniazid, fluoroquinolones, and aminoglycosides and holds promise as a rapid point-of-care test to guide therapeutic decisions for patients with tuberculosis," the authors write.

**More information:** [Abstract/Full Text \(subscription or payment may be required\)](#)

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