

# Scientists: Novel TB drug combo passes first test

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Scientists are hot on the trail of a new tuberculosis treatment that a small study suggests might one day offer an alternative to battle this deadly lung disease, even if it is resistant to today's two main drugs.

There have not been new medications to treat TB in four decades. But the experimental three-[drug combination](#), revealed Monday at the International AIDS Conference, is one of a list of promising compounds under intense testing around the world.

"We are cautiously optimistic that we are at the dawn of a new era for [TB drugs](#)," Dr. Diane Havlir of the University of California, San Francisco, who is co-chairing the meeting, told The Associated Press. She wasn't involved with the new research.

TB is one of the world's oldest killers, and every year it claims the lives of more than 1.5 million people, mostly in developing countries. It's also the leading killer of people with AIDS.

Standard first-line treatment requires taking four medications for six months. A frightening factor is that the bacteria that cause TB are fast becoming impervious to the two main drugs in that cocktail. The [World Health Organization](#) estimates there are more than 650,000 cases of multidrug-resistant TB a year. Treating [drug-resistant](#) TB can take more than two years, if it works at all.

Enter the new drug research.

Scientists in South Africa divided 85 newly diagnosed [TB patients](#) to take a variety of combinations of standard or experimental TB drugs,

Fifteen of the patients received a unique trio that emerged as the study's focus: An experimental antibiotic code-named PA-824, along with the pneumonia drug moxifloxacin and an older TB drug, [pyrazinamide](#).

In a two-week test, the drug trio killed at least as much of the [TB bacteria](#) that patients coughed up as today's standard four-drug therapy, and possibly worked a bit faster, said Dr. Mel Spigelam of the nonprofit TB Alliance, the Global Alliance for TB Drug Development.

That does not mean patients were cured in two weeks, stressed lead researcher Dr. Andreas Diacon of South Africa's Stellenbosch University. It takes longer to get the last TB bugs lurking deep in the lungs — the reason that TB therapy must be taken for months — but a two-week test is a standard first step in drug development.

It is noteworthy that the experimental combination doesn't include either of the two standard TB drugs — isoniazid and rifampicin — that today cause most problems of drug resistance. If additional research proves the drug trio really works, it could offer a much-needed alternative for multidrug-resistant TB as well, Spigelman said. Plus, it might be helpful for HIV patients who have trouble with today's TB treatments interacting badly with their anti-AIDS medicines.

A larger study has begun in South Africa, Tanzania and Brazil that will test how patients fare over two months. Monday's study, funded by the Bill and Melinda Gates Foundation and other groups, also was reported in the journal *Lancet*.

As important, the study showed a new way to research TB treatments that scientists hope will cut years off the lengthy process, said Mario

Raviglione of the World Health Organization. Today, possible new drugs are tested simply by adding them onto standard treatment rather than the TB Alliance approach of testing novel combinations from the beginning.

A few other promising TB drugs are further along in the pipeline. Johnson & Johnson recently filed for U.S. approval of its bedaquiline, which it hopes will become the first medicine specifically designated to treat multidrug-resistant TB. In a late-stage study this autumn, the company will test whether it can shorten therapy time for those especially hard-to-treat [patients](#). And Otsuka Pharmaceutical Co. is studying its own drug, named delamanid.

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