

# Researchers develop antibiogram to help providers treat nontuberculous mycobacteria

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Researchers at National Jewish Health have published data that will help medical providers better understand the susceptibility of various nontuberculous mycobacteria (NTM) to different drugs. This new

antibiogram will assist providers in making informed treatment decisions for patients with NTM. An antibiogram is a summary of antimicrobial susceptibility rates for bacterial pathogens, which provides comprehensive information about antimicrobial resistance. The research paper was published in the journal *Diagnostic Microbiology and Infectious Disease* and is the result of a collaboration between the researchers at National Jewish Health Advanced Diagnostic Laboratories and infectious disease physicians at National Jewish Health.

"The prevalence of NTM has been increasing in the United States and it is important to track the antibiotic [susceptibility](#) of these organisms," said Reeti Khare, Ph.D., D(ABMM), director of the Infectious Disease Laboratory and senior author of the study. "Our unique position as a national diagnostic lab provides us access to the thousands of NTM isolates required to detect these patterns of susceptibility."

NTM are a group of bacteria naturally found in soil, water and dust worldwide. Everyone inhales NTM into their lungs as part of daily life, and in most people the organisms do no harm. But in a small number of vulnerable individuals, NTM causes [lung infection](#). NTM are categorized into slowly growing [mycobacteria](#) and rapidly growing mycobacteria.

In this study, researchers performed drug susceptibility testing for 14 rapid growing mycobacteria, using the largest sample size to date. Their results showed that rapidly growing NTM organisms were typically susceptible to amikacin (82% to 100% of isolates) and showed high to moderate susceptibility for clofazimine and tigecycline and variable patterns for the remaining drugs. Complete speciation/sub speciation also uncovered different patterns of susceptibility between highly similar organisms.

"Rapidly growing mycobacteria are an uncommon but increasingly are a cause of disease, and their management is typically complex," said

Charles Daley, MD, chief of the Division of Mycobacterial and Respiratory Infections at National Jewish Health and co-author on the study. "The research results can help guide therapy and influence antibiotic selection, especially when guidelines are lacking for rare mycobacteria."

**More information:** Joshua-J. Hunkins et al, In vitro susceptibility patterns for rapidly growing nontuberculous mycobacteria in the United States, *Diagnostic Microbiology and Infectious Disease* (2022). [DOI: 10.1016/j.diagmicrobio.2022.115882](https://doi.org/10.1016/j.diagmicrobio.2022.115882)

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