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Chemist wins grant to discover anticancer drug leads in fungi

(GREENSBORO, NORTH CAROLINA)—Dr. Nicholas Oberlies, a UNC Greensboro professor of [chemistry and biochemistry](#), received a \$1.5 million grant from the [National Cancer Institute \(NCI\)](#) to discover new anticancer drug leads in fungi. While fungal cultures have been used for decades in life-saving medicines—most notably penicillin and statins—there are still no drugs derived from fungi for fighting cancer.

“You could argue that half of us wouldn’t be alive today if it weren’t for fungi,” said Oberlies. “There’s something like five million fungi in the world, and only 100,000 have been discovered. The exciting thing about this project is we may soon discover a compound in fungi that could eventually become an anticancer drug—or we may have already discovered one.”

[The Oberlies Research Group](#) has been mining fungi for promising leads since 2007, producing over 50 manuscripts on the topic and two patents. Yet drug discovery is still considered to be in the early stages. That’s in part because most research on fungi has focused on antibiotic development.

“Post-World War II, everybody turned their attention to antibiotic drug discovery because penicillin was so successful,” Oberlies said.

Another reason is the seemingly endless supply of fungi in the world, many of which are still waiting to be discovered. Oberlies and his lab closely collaborates with [Mycosynthetix, Inc.](#), a biotechnology company in Research Triangle Park, that supplies the researchers with samples from their library of more than 50,000 different fungi. After isolating promising compounds, the Oberlies lab then sends any leads to their collaborator at the University of Illinois at Chicago, who tests their effectiveness on ovarian cancer cells.

Despite ten years of diligent research—and the identification of several promising leads—there’s still more to do. This latest round of funding from NCI will support five more years of research. And with [1,500 people dying](#) from cancer each day in the U.S., the implications of Oberlies’ research is clear.

Thankfully, there seems to be no limit to fungi—or their potential.

“Everywhere we look, we discover new fungi,” said Oberlies. “When I go to the beach, I collect new fungal samples. I’ve discovered new fungal samples on campus ... I’ve worked on this project for ten years, and I could work on it for 30 more. We’re just scratching the surface.”

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