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UW WILL STUDY NATURAL REMEDIES FOR CANCER THE UNUSUAL FIVE-YEAR RESEARCH PROGRAM WILL INVOLVE SEVERAL UNIVERSITY DEPARTMENTS.

Karen Rivedal Wisconsin State Journal | Posted: Thursday, July 21, 2005 12:00 am

UW-Madison researchers will be leading a five-year effort to coax new cancer treatments from the natural world.

The program, funded by a \$5.6 million grant from the National Cancer Institute, will draw on the university's traditional strengths in chemistry and biology but leverage them in an unprecedented way, said Ben Shen, a UW-Madison professor of chemistry and pharmaceutical science who will lead the group.

Unlike most basic cancer research, the new effort will focus heavily on drug discovery. The scientists hope to get products out of the lab and into treatment programs as soon as possible.

"We are trying to push the compounds to the clinic as fast as we can," Shen said.

The effort will bring together faculty and staff scientists from the School of Pharmacy, the McArdle Laboratory for Cancer Research and the UW Comprehensive Cancer Center. Their goal is to copy and improve on nature's molecular designs to develop new medicines to treat colon, breast, cervical and pancreatic cancer.

"There's very few of these kinds of programs in the nation, and this is really the very first one on this campus," Shen said. "What we really want to tell people is that we view this as the beginning of great things to come."

Shen noted that natural products have long provided medicine's most effective arsenal, providing antibiotics and 60 percent to 75 percent of the most potent chemotherapy treatments in the past 25 years.

"We actually don't know why Mother Nature is making them," Shen said.

But in the past decade, pharmaceutical companies -- the traditional source of most new drug research -- have shied away from more study of microbes and plant and marine organisms in favor of research on synthetics. That's largely because research on natural products is so expensive and time-consuming, Shen said. Such research involves the complicated process of identifying and reproducing the very complex molecules that make up biologically active compounds in those organisms, he said.

But UW-Madison researchers are hopeful that new technologies can help them better crack those codes. They will make use of advances in genetic engineering, new mouse models of cancer and real-time tumor imaging methods to take another run at a full library of previously discovered natural compounds.

Shen said the researchers don't expect to cure cancer in five years. But they do expect -- by using all the multidisciplinary talent on the team -- to produce important new drugs that will be more medically efficient with fewer side effects.

"We will be able to pull off this entire thing on the UW campus," Shen said. "That is pretty significant."

The other key members of the team, to be known as the National Cooperative Drug Discovery Group, are Michael Hoffman, Richard Hutchinson, Paul Lambert, Jon Thorson and Lynn Van Campen.

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