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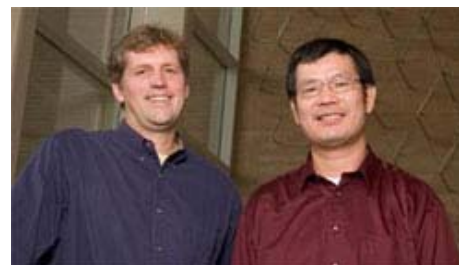
Seeking Cancer Cures in Nature

August 9, 2006

MADISON — Jon Thorson, PhD and Ben Shen, PhD, members of the [Experimental Therapeutics](#) research program, are interviewed about seeking cancer cures in nature.

You recently received a large grant to study natural products as potential cancer drugs. Can you tell us more about your research?

The National Cancer Institute is funding a nearly \$6 million grant to support an innovative drug discovery program on campus by forming a National Cooperative Drug Discovery Group (NCDDG). It is the first such program at UW; we're very proud we were selected.



It is a five-year grant, and will allow us to bring together 12 faculty and staff scientists from three UW schools and seven departments. We'll all be focused on discovering and developing naturally-based products into anticancer drugs, then helping translate those discoveries into patient therapies—to make that translational link.

What is the National Cooperative Drug Discovery Group?

It was established in 1983 to encourage innovative, multidisciplinary research into finding new synthetic or nature-based cancer fighting drugs. Our program is one of eight or nine in the nation to receive an NCDDG grant, but one of only two concentrating on natural products. We're also the only group not associated with a pharmaceutical company.

What sparked this idea?

The spark was the interaction between our two research groups—the Shen labs and the Thorson labs—and our research involving anticancer molecules. We recognized that seeking the grant was an opportunity to apply our expertise in a new and potentially very important way.

It was really the unique combination of technologies and strong individual research at UW that started us talking about working with others to build a collaborative program centered around natural products. This is truly a group effort that will not only enhance our own research but will create a platform of technology that will advance science as a whole on this campus.

Why natural products?

Natural product research in the pharmaceutical industry is cyclical, partially because of the difficulties associated with isolating, characterizing and working with natural product molecules. But there is no doubt that natural products such as plants, microbes and marine organisms, are a basic starting point for many different drugs—that will never change.

What probably drew both of us to natural products is the beauty of what nature does. The goal for people like us is to understand how nature can put together these magnificent looking molecules and to determine if we can take advantage of how they are created.

What makes UW-Madison such a unique site for this research?

It is the full program—we can do things that other places can't do— all of the pieces come together here. We have the technology to generate new compounds. Our unique imaging facilities, our access to special mouse models and our ability to monitor drug action give us the unusual capacity to evaluate these new compounds.

We also had the support of the UW Comprehensive Cancer Center. The director, George Wilding, funded a pilot study that showed our proposal could be successful. He appreciated our vision.

What do you hope to achieve by the end of the grant?

We hope to do two things. Our researchers will be working to remodel promising molecules. Nature makes compounds with tremendous potential. We're looking at technologies to either re-engineer nature to make new compounds, or to take the compounds that nature provides and make simple modifications, eventually creating a drug that can be used to treat cancer patients.

As we improve our ability to understand, manipulate and process, our ability to make use of

natural compounds increases and we can advance science and make more progress in treating cancer.

We also hope to encourage new opportunities in drug discovery by creating a novel infrastructure for future research. As industry de-emphasizes natural product study, it is extremely important for academic programs to fill the niche.

Within five years we will have the infrastructure established and the research machinery working to pump these new compounds to centers for screening in animal models and advanced imaging techniques.

If we are able to identify a lead compound and advance it to clinical development within five years—well that would be a home run.

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