

Drug Metabolism Products And Research

University of Kansas



Andrew Parkinson doesn't consider himself to be an entrepreneur, but he and his staff at XenoTech, LLC, have built a leader in the field of drug metabolism research.

"I'm actually not much of a risk-taker when it comes to science and business," says the founder and owner of XenoTech, LLC, a leader in drug metabolism research, based in Lenexa, Kan. "It was with a lot of trepidation that I entered into this business and started this company."

But once Parkinson did enter the business, he and his company were on their way to becoming leaders in the field. Today, XenoTech employs more than 80 people. The scientific staff is divided into focused departments: Drug Metabolism, Drug Inhibition and Enzyme Induction and Products.

“XenoTech's products are used to support drug metabolism-related research and include liver, intestinal, renal and pulmonary microsomes and a wide variety of in vitro research products and materials.

The company's products and services deliver information recommended by the U.S. Food and Drug Administration (FDA) to predict inter-individual variation in drug safety and drug ability to perform as expected, and to explain adverse drug-to-drug interactions.

Customers include pharmaceutical laboratories, food companies, chemical industry firms, academic institutions and regulatory organizations throughout the world. They primarily come from throughout North America, Europe and Japan.

In addition to providing research products for use by these organizations, XenoTech also offers research services to its clients. XenoTech's in vitro services are designed to provide the type of information encouraged in the FDA's April 1997 Guidance for Industry.

The company's services include enzyme inhibition, which predicts the potential for compounds to inhibit the metabolism of other drugs and hence risk adverse reactions. It also specializes in reaction phenotyping (enzyme mapping), which is used to determine the metabolic pathways involved in biotransformation of compounds. Another specialized research service involves species comparisons, which identify the non-human species whose metabolic profiles for specific compounds most closely resemble that of human.

Filling a Need in the Research Market

XenoTech scientists have made presentations, taught courses and consulted on metabolism-related issues for the FDA and numerous organizations worldwide. XenoTech also has significant experience preparing customized reports for sponsors from around the world.

Parkinson first started to realize the need for such services while a professor at the University of Kansas Medical Center (KUMC) in 1983, doing research on Cytochrome P450 (CYP) enzymes — major enzymes in the liver.

"We would get requests from pharmaceutical companies and other private sector groups to do research or provide reagents and products to them," Parkinson says. The research funding for such work became attractive to Parkinson and the Medical Center. The university became a 20 percent owner of what became XenoTech, and the company started in an incubator space provided by the university. Eventually, it occupied all 6,000 to 7,000 square feet of that space.

"XenoTech, as a success story, is a great example to other KUMC faculty researchers regarding how commercialization is a valid way to transfer research information into the public domain for the public good," said Richard Huston, director of Technology Transfer Office and associate director of the Research Institute at Kansas University Medical Center. "It also was also one of the first tenants in the Kansas City Biotechnology Development Center during the mid-1990s, which is located on the north edge of the KUMC campus. Today [the Center] has about 6,600 square feet of modernized wet lab space that was updated after XenoTech's departure. Two client firms have occupied the space over the past year, one with \$19 million of recently acquired venture capital and possibilities for other clients are on the horizon. XenoTech's success is an inspiration to other KUMC researchers who have great technologies that can be developed for commercialization."

"It has changed a great deal," Parkinson says of university technology transfer. "At that time, you didn't really have the vehicles for tech transfer and royalties from startups to universities that you have today."

Parkinson raised capital separately from the university. Some of it came by putting his home and property up as collateral.

Making the Leap to the Business World

The company grew slowly but consistently through the late 1980s and early 1990s, until the formal establishment of XenoTech in 1994. Then, around 1999-2000, after what Parkinson admits was some “long agonizing,” he decided to leave his tenured position at the university and devote himself full-time to XenoTech.

“It had come to either selling the company, letting it wither or leaving the university,” Dr. Parkinson says. “I chose the latter.”

Parkinson also bought out the university’s 20 percent ownership.

XenoTech’s company tagline reads, “Uncommon Science, Uncommon Service.” The company offers services based on Good Laboratory Practices (GLP) when desired, and a variety of products for in vitro drug metabolism research.

XenoTech offers drug inhibition, enzyme induction and drug metabolism studies as either non-GLP studies or as studies in compliance with GLP regulations in the U.S., Japan and Europe.

“Some of the studies we do are required to comply with the FDA GLP standards, but not follow them strictly,” Parkinson says. “Others are required to comply. We believe it is good to offer both.”

XenoTech has twice been selected as one of the five finalists for the 2006 Kansas Governor’s Exporter of the Year Award. With sales and services to companies in 19 countries, XenoTech has thought big and globally, while using many Kansas vendors for needs from organs for the research to office supplies and legal and professional consulting. The company also is very involved in state and local community initiatives and charities.

XenoTech maintains strict confidentiality with its clients, but the company did provide the following excerpt from a client’s letter:

“XenoTech staff proved to be exceptionally helpful when it came down to design a study protocol in a timely fashion. They also showed flexibility and understanding when we needed to include strict timelines for delivery of critical study milestones. In addition, XenoTech’s CEO, Dr. Andrew Parkinson, offered to function as an expert consultant by helping to respond to the FDA drafting a Position Paper on the status quo of in vitro CYP induction and its relevance to in vivo drug-drug interactions. “The study was completed ahead of schedule. It was the combined effort of all people involved at XenoTech that allowed us to address all questions raised to the FDA’s full satisfaction.”

Parkinson admits this type of input is rewarding for somebody who doesn’t consider himself an entrepreneur.

“I feel very uncomfortable with that entrepreneur description,” Parkinson says. “We have wonderful people who have helped build XenoTech. They deserve much of the credit.”

This story was originally published in 2007.

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