

Nanobiotix looks to bring cancer treatment to market

May 26 2014, by Ellen Goldbaum

Laurent Levy left the University at Buffalo in 1999 with a dream: transforming his recently completed postdoctoral research on nanomedicine into real-world products for patients battling cancer.

Today, the scientist-turned-entrepreneur is zeroing in on that goal.

In February, Levy's drug development company, Nanobiotix, announced that a [cancer treatment](#) called NBTXR3, the first product from its NanoXray pipeline, had shown positive intermediate results in a pilot clinical trial on patients with advanced soft tissue sarcoma. These results allowed Nanobiotix to finalize and to announce its development plan for the launch of NBTXR3 on the market: with this first indication, advanced [soft tissue sarcoma](#), NBTXR3 could be approved in Europe as early as 2016.

The news led to a jump in the company's stock price—and new funding for research at UB.

Nanobiotix got its start in 2003 by licensing two technologies that Levy, PhD, developed with colleagues at the university and Roswell Park Cancer Institute: magnetic nanoparticles for cancer treatment and diagnosis (NanoMag), and laser-activated nanoparticles for cancer treatment (NanoPDT).

UB received company stock as part of the licensing agreement, and sold the shares in February for \$1.35 million. In accordance with university

policy, the majority will return to UB, to be reinvested in research.

"This is a real success story," said UB Vice Provost Robert Genco, who oversees the Office of Science, Technology Transfer and Economic Outreach (STOR). The office helps commercialize UB discoveries, in part by handling patent applications and licensing negotiations for technologies developed at the university.

"Nanobiotix is an example of how UB is benefiting society: As a postdoctoral researcher here, Laurent saw the medical and commercial potential of the work he was doing and decided that he wanted to take it further," Genco said. "We're a global university, and we're seeding companies not only in Western New York, but around the world."

At UB, Levy conducted postdoctoral research with SUNY Distinguished Professor Paras Prasad, executive director of the Institute of Laser, Photonics and Biophotonics (ILPB) at UB. Prasad, PhD, is one of the world's pre-eminent thinkers in nanomedicine, which uses super-small particles, materials and devices to treat and diagnose disease.

In the 1990s, when Levy was in Buffalo, the nanomedicine field was just emerging. He joined Prasad's lab, where he developed the idea of using the unique properties of nanoparticles to kill cancer cells.

"It was an exciting field with a lot of great potential; at this time, it was very new, and everything needed to be done," Levy remembers. "I moved to UB because of Dr. Prasad, who proposed to me to develop my ideas in his lab. What I found there was a great place with diverse expertise in biology, physics, chemistry and medicine. This environment was quite unique 15 years ago, and clearly helped me in developing those concepts."

Since leaving UB, Levy has devoted more than a decade to growing

Nanobiotix.

The company got its start by licensing the NanoMag and NanoPDT technologies he co-invented at UB, and has since gone on to develop new product lines including NanoXray—nanoparticles that enable doctors to increase the radiotherapy dose in tumors without increasing damage to surrounding healthy tissue.

The company's promise has driven investor interest, with the firm listed on the NYSE Euronext market in 2012 after an initial public offering raised gross proceeds of 14.2 million euros (about \$18.1 million) and a capital increase completed in March 2014 of 28.1 million euros (about \$38.5 million). The company now has a current market value of over \$300 million.

"In the 1990s, Laurent came to our lab with ideas that were extremely forward-thinking for that time," said Prasad, a professor of chemistry, physics, medicine and electrical engineering. "It has been extremely gratifying to be able to help him move those ideas forward in a way that could offer significant benefits to society."

Nanobiotix is a clinical-stage nanomedicine company pioneering novel approaches for the local treatment of cancer. The company's first-in-class, proprietary technology, NanoXray, enhances radiotherapy energy to provide a new, more efficient treatment for cancer patients.

NanoXray products are compatible with current radiotherapy treatments and are meant to treat a wide variety of cancers via multiple routes of administration.

Provided by University at Buffalo

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