

Greenhouse funds to aid 'high risk, high reward' research

BioAdvance's third round to provide about \$3.5M for seven life science start-ups

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BioAdvance is set next week to unveil its third round of investments, which will provide about \$3.5 million to seven local life sciences researchers or companies.

"About half are involved in new therapeutic products and half are working on diagnostics or devices," said Barbara Schilberg, BioAdvance's CEO. "In both sectors, we are seeing [applicants researching] potential paradigm shifts in terms of new approaches to diagnosing or treating diseases. One involves a new way to treat obesity and others are working on new ways to detect brain trauma and Alzheimer's disease."

The identities of the recipients will be announced Jan. 25.

Schilberg said this round of investments involves more early-stage but potentially revolutionary research.

"It's high risk, but very exciting research - which we believe is the sweet spot of where we should be working," she said.

During the past two years, BioAdvance, operator of the Biotechnology Greenhouse of Southeastern Pennsylvania, has invested more than \$5.5 million in 13 local companies involved in everything from using genetic interference to treat eye diseases (Acuity Pharmaceuticals) to developing urine-based tests for prostate cancer (MacroArray Technologies).

The money comes from BioAdvance's \$20 million Greenhouse Fund that was established to invest in promising early-stage life sciences projects. The \$20 million came from the \$33.8 million BioAdvance received from the state in 2002. That money was part of the \$100 million Pennsylvania allocated from its tobacco industry settlement fund to establish biotech greenhouses in Philadelphia, Pittsburgh and central Pennsylvania.

The investments from BioAdvance are made in the form of loans that are convertible to equity, provided a company meets specified research and development goals.

Schilberg is pleased with the progress being made by companies that have received Greenhouse Fund investments during the past two years.



Schilberg

BIOADVANCE INVESTMENTS

COMPANY	HEADQUARTERS	PROJECT TITLE	BIOADVANCE FUNDING
Acuity Pharmaceuticals	Philadelphia	Completion of preclinical studies to file IND for Cand5, a new therapeutic based on RNAi for macular degeneration.	\$500,000
Alteris	Philadelphia	Identification and characterization of monoclonal antibodies for cancer.	\$496,000
BioSensus	Philadelphia	Commercialization of nanoacoustic blood coagulation sensor.	\$500,000*
Cira Discovery	Philadelphia	Discovery of gene patterns for prediction of disease and drug response.	\$500,000
Eagle Vision Pharmaceutical	Exton	First nonradioactive, cardiac-specific, MRI imaging agent for ischemia; cancer applications.	\$307,000
Gelifex	Philadelphia	Development of minimally invasive surgical procedure to repair spinal disc to relieve back pain.	\$405,000
Lumenvu	Philadelphia	Optical guidance device for pediatric applications	\$250,000
Macroarray Technologies	Villanova	Development of a urine-based diagnostic marker test for prostate cancer.	\$500,000
Phenotech	Philadelphia	Method to automated blood typing.	\$496,000
Protez Pharmaceuticals	West Chester	New Anti-Infective: technology transfer & development.	\$500,000
RetinaPharma	Jenkintown	Development of prototype for hand-held device for more accurately determining intraocular pressure; diagnosis, prevention and treatment of ophthalmologic disorders.	\$469,000
TheraQuest Biosciences	Blue Bell	Development of TQ-1015, an abuse-resistant, sustained release formulation for treatment of pain.	\$500,000
Yaupon Therapeutics	Radnor	Lobeline for the treatment of methamphetamine addiction.	\$500,000
TOTAL			\$5,423,000

* Last month, BioAdvance made a follow-on investment of \$400,000 into Cira Discovery, bringing its total committed funds for the company to \$500,000.

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Terry A. Fuller
RetinaPharma
president and CEO



Terry A. Fuller displays a TonoPach.

One company, RetinaPharma Inc., received marketing clearance from the Food and Drug Administration earlier this month for its TonoPach device.

"If it wasn't for the BioAdvance money, this product wouldn't have gotten to market," said Terry A. Fuller, the Jenkintown company's president and CEO. "The \$485,000 they provided to us was used exclusively for the development of the TonoPach. All of our internal resources are used for our biopharmaceutical products, so [the BioAdvance investment] was really critical."

RetinaPharma's TonoPach technology provides a more accurate diagnosis of glaucoma and ocular hypertension, both leading causes of preventable blindness among adults.

Historically, physicians have measured intraocular pressure alone to diagnose the diseases. About three years ago, the National Eye Institute published study results

that showed corneal thickness is also an important risk assessment parameter for glaucoma.

Fuller noted thinned corneas, which can result from laser vision corrective surgery or disease, can alter a patient's intraocular pressure reading and cause incorrect diagnoses.

The handheld TonoPach device provides three readings: intraocular pressure, cornea thickness and what the intraocular pressure should be when adjusted for the cornea thickness.

Fuller said the company is talking with potential distribution partners and expects to have the device in the market by the end of the second quarter.

Since its inception in 1998, RetinaPharma has raised \$5 million from private investors including Hopkins Capital Group of St. Louis. The company is getting ready to raise another \$5 million to \$7 million to support other developmental-stage products to treat "wet" age-related macular degeneration and other eye and neurodegenerative diseases.

Other BioAdvance companies have also made significant progress toward their research goals.

Acuity Pharmaceuticals, which followed up on its \$500,000 BioAdvance investment with a \$15 million private stock sale, became the first company in the country to begin human testing of a new drug candidate using RNA interference technology.

The West Philadelphia company is employing RNA interference, a technique designed to intercept and destroy harmful messages transmitted by defective genes, to treat wet age-related macular degeneration. Acuity was founded in late 2002 to commercialize technology developed by researchers at the University of Pennsylvania's Scheie Eye Institute.

In an interview last year, Dale Pfof, the

West Philadelphia company's president and CEO, said. "It is a real badge of distinction to be the first to apply a wholly new technology like RNAi to treat human disease."

Earlier this week, Pfof said the study is progressing and the company is planning a phase-II study, which begins to test effectiveness, later this year.

Yaupon Therapeutics which received \$500,000 from BioAdvance, initiated human clinical testing of a plant-derived experimental treatment for methamphetamine addiction. The drug, called Lobeline, was developed from a substance found in the Lobelia plant.

Robert Alonso said a second safety study is now being designed and is expected to begin in late summer. He said the Radnor company also plans to begin phase-II and phase-III clinical trials of another product in its pipeline, Clearazide, a potential skin cancer treatment, during the second quarter of this year.

Phenotech Inc., a Philadelphia company whose founder Dr. Donald L. Siegel received \$463,000 from BioAdvance in 2003, recently gave a presentation on its new blood typing technology at the annual meeting of the American Association of Blood Banks in Baltimore.

Another BioAdvance-funded company, Gelifex, was acquired last year by Synthes Inc., a medical-device company based in Paoli. Gelifex, co-founded by two Drexel University professors, was launched to develop hydrogels, which are special polymers inserted between the vertebrae to alleviate and treat lower back pain.

Schilberg said another company that received BioAdvance funding is also in merger talks, while three others are in active discussion with private investors.