

Texas translation

By Lev Osherovich, Senior Writer

The taxpayer-backed **Cancer Prevention & Research Institute of Texas** is moving downstream from its initial focus on basic research in oncology. This month, the institute announced its latest round of grants—this time focusing on both translational- and commercial-stage research, the latter of which includes recruiting companies to relocate to Texas.

The Cancer Prevention & Research Institute of Texas (CPRIT) launched in 2007, after a voter-backed constitutional amendment authorized a \$3 billion bond issue for cancer research and prevention within the state, and issued its first grants in 2009. In the latest round, 25 entities received about \$81 million. In total, CPRIT now has given out 387 grants worth about \$671 million.

CPRIT has a broad remit for how to spend its money, about \$300 million annually for 10 years, said Charles Tate. Tate is a member of CPRIT's Oversight Committee and chairman of CPRIT's Economic Development and Commercialization Subcommittee.

Tate said CPRIT is required to spend no more than 10% of its budget on prevention, such as colorectal and breast cancer screening programs

in rural areas. The remaining 90% is to be spent at the discretion of the institute's Executive Committee. Although there are no formal milestones to mark CPRIT's progress, the institute must report annually to the Texas state legislature.

"The people of Texas wanted us to prevent cancer and save lives but also to promote revenue generation in the state," said Bill Gimson, executive director of CPRIT. "We balance this by investing in both basic and translational research as well as commercial research."

The latter two components are the major thrust of the new grants (see Table 1, "Cancer Prevention & Research Institute of Texas' latest grant recipients"). For example, the institute issued a \$20 million grant to launch the **Houston-Area Translational Research Consortium (HATRC)** at **Rice University** and **The University of Texas MD Anderson Cancer Center's Institute for Applied Cancer Science (IACS)**.

HATRC is incubating new companies based on discoveries by Houston-area researchers and will be headed by Lynda Chin, IACS scientific director and chair of genomic medicine at MD Anderson.

CPRIT's Gimson and Tate noted that translational work requires not just financial investment but also management expertise. To help academics, clinicians and companies collaborate, CPRIT created a virtual management company called **Texas BioAlliance**.

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*—William Gimson,
Cancer Prevention &
Research Institute of Texas*

Table 1. Cancer Prevention & Research Institute of Texas' latest grant recipients.

Recipient	Program	Funding (\$M)
Companies		
Asuragen Inc.	Mutational profiling of tumors by next-generation DNA sequencing	6.8
Cell Medica Ltd.	Clinical development of T cell therapies	15.6
Kalon Biotherapeutics LLC	Process development and manufacturing of biologics	7.9
Pulmotect Inc.	Clinical development of PUL-042, an inhalable immunomodulatory agent	7.1
Academic institutions		
Houston-Area Translational Research Consortium	Translational research incubator	20
The University of Texas MD Anderson Cancer Center	Targeted breast cancer therapies, cancer pain therapies, immunotherapeutics, imaging and cytometric technology, and staff recruitment	6.7
The University of Texas Southwestern Medical Center	Biomarker studies, and faculty and staff recruitment	5
The University of Texas Health Science Center at Houston	Cancer imaging	0.6
Texas A&M University	Cancer metabolism and faculty recruitment	4
Baylor College of Medicine	Development of molecular diagnostics and cancer vaccines	2
The Methodist Hospital Research Institute	Small interfering RNA therapeutics for breast cancer and immunomodulatory therapies for prostate cancer	1.9
Texas Tech University Health Science Center	Preclinical development and manufacturing of a ceramide catabolism inhibitor to treat solid tumors	1
Texas A&M University Health Science Center	Cancer metabolism	1.5
The University of Texas Health Science Center at San Antonio	NMR facility for drug discovery	1

Texas BioAlliance CEO Jacqueline Northcut said her team supports CPRIT's grant recipients with managing and developing IP and outsourcing of laboratory services.

"Texas BioAlliance helps companies or principal investigators to understand the kind of help they need" to advance technologies from the bench to the clinic, said Northcut.

Courting companies

To go even further downstream, CPRIT is looking outside the borders of Texas. The first company that has chosen to relocate to Texas is U.K. cancer immunotherapy company **Cell Medica Ltd.**

The institute invested \$15.6 million in Cell Medica as part of a \$28 million series A round that was led by CPRIT. Other investors were undisclosed.

The company's ties to Texas can be traced back to 2010, when Cell Medica in-licensed T cell isolation technology from the **Baylor College of Medicine**. Baylor and Cell Medica now are running a 40-patient open-label Phase Ia trial of Cytorex EBV, an autologous cell therapy involving Epstein-Barr virus (EBV)-specific cytotoxic T lymphocytes, for lymphoproliferative malignancies.

"We were talking to Baylor about launching a company-sponsored trial of Cytorex EBV for accelerated approval. This required a physical presence in the United States," said Cell Medica CEO Gregg Sando. "Then we started talking to CPRIT and realized that they would support our efforts if we relocated to Texas."

Cell Medica's lead product is Cytovir CMV, which is in Phase II and Phase III testing to prevent latent cytomegalovirus (CMV) reinfection in patients receiving bone marrow transplants after myeloablative therapy for cancer. Cytovir CMV is already approved in the U.K. as a transplant service similar to a bone marrow transplant. The company is discussing the classification of Cytovir CMV with the FDA.

Another Cell Medica product, Cytovir ADV, will enter Phase I testing later this year to prevent awakening of latent adenovirus (ADV) in pediatric cancer patients receiving bone marrow transplants.

Sando said the company will maintain a presence in the U.K.

Gimson cited Cell Medica's fundraising as an example of how CPRIT's investments can yield an influx of outside venture capital investment into Texas companies, justifying the fund's efforts to state lawmakers even before the clinical benefits of its grants are known.

"Relocating a company to Texas is a big draw," said Gimson. "Our latest estimate is that for the \$60 million invested in companies prior to this round, those companies went on to raise an additional \$200 million in follow-on capital from other sources. To a decision maker, this looks pretty good, even if it's a surrogate until there are products."

Three other companies, all based in Texas, also are receiving money in the latest grant round: RNA diagnostics company **Asuragen Inc.**, biomanufacturing company **Kalon Biotherapeutics LLC** and immunomodulator play **Pulmotect Inc.** will collectively receive \$21.8 million.

Streamlining manufacturing is the rationale behind CPRIT's grant to Kalon, which is owned by the **Texas A&M University** system.

President and CEO Andrew Strong said Kalon, which was founded last year, aims to rapidly develop specialized manufacturing protocols for complex biologic and cell-based therapies. "The company is working to fill the space between discovery and manufacturing," he said. "Instead of doing one particular type of manufacturing, we've developed a single facility that can use all kinds of expression systems."

Kalon's process development facility was already up and running before the CPRIT grant, but Strong said the company needed CPRIT's cash to grow its staff to accommodate an influx of business from Texas-based academic researchers seeking to scale up production of their therapeutic candidates.

"With the CPRIT money, we can look on a national and international level for the best talent and the best equipment," said Strong.

Kalon is working with teams at Baylor and MD Anderson to produce material for investigator-initiated Phase I/II trials of a therapeutic mAb and a plasmid-based gene therapy. The company did not disclose further details.

Asuragen and Pulmotect could not be reached for comment.

Long-term plans

Tate sees different time horizons for CPRIT's various investments, with prevention efforts having the most immediately evident results. CPRIT's commercial and research spending will take longer to affect public health and state revenue.

"Our prevention activities could have a short-term impact, our commercialization efforts are medium term and the research is more long term," said Tate.

Gimson said that besides the 10% earmarked for prevention, CPRIT spends 75% of its budget on academic research and the remaining 15% on commercial development. He said CPRIT hopes to increase the proportion of commercial spending in future funding rounds.

Gimson noted that companies receiving CPRIT grants must raise additional money from other investors equaling no less than 50% of CPRIT's contribution. He also noted CPRIT will determine on a case-by-case basis whether to take an equity stake in companies receiving its grants or instead require a royalty-sharing arrangement.

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COMPANIES AND INSTITUTIONS MENTIONED

Asuragen Inc., Austin, Texas
Baylor College of Medicine, Houston, Texas
Cancer Prevention & Research Institute of Texas, Austin, Texas
Cell Medica Ltd., London, U.K.
Kalon Biotherapeutics LLC, College Station, Texas
Houston-Area Translational Research Consortium, Houston, Texas
Pulmotect Inc., Houston, Texas
Rice University, Houston, Texas
Texas A&M University, College Station, Texas
Texas BioAlliance, Houston, Texas
The University of Texas MD Anderson Cancer Center, Houston, Texas