

# BIO WORLD<sup>®</sup> TODAY

MONDAY  
AUGUST 22, 2005

THE DAILY BIOTECHNOLOGY NEWSPAPER

VOLUME 16, No. 160  
SPECIAL REPRINT

## DermTech's EGIR Designed To Identify Diseases Through Skin

By Karen Pihl-Carey  
Staff Writer

What started out as a clinical research organization in 1996 evolved last year into an early stage biotechnology company called DermTech International.

As a new player in the field of theranostics, DermTech focuses on its Epidermal Genetic Information Retrieval (EGIR) technology, which could be used in drug discovery, managed care and point-of-care testing. Theranostics is the parallel development of a diagnostic kit that can help select patients who will be most responsive to a therapy.

"This is a new, very important field. The FDA is very supportive of it," said Gail Naughton, chairwoman of DermTech and the dean of business at San Diego State University. "We just see this as tremendous potential."

EGIR was developed by DermTech to measure biomarkers in order to assess the disease state of skin at the molecular level. The technology offers a non-invasive way to diagnose disease without the need for painful biopsy methods.

For drug discovery, it may help shorten mid-stage product development cycles by screening drug candidates for activity at the mechanism-of-action level. In terms of managed care, EGIR could help to determine an individual's predisposition for a particular skin disease and uncover molecular markers in the skin to diagnose certain autoimmune conditions and malignancies. It could then help doctors to identify the best course of treatment for an individual patient.

In a pilot psoriasis trial, for instance, EGIR showed different response profiles in different patients well before there were visible results.

"We were able to go and predict in psoriasis which patients are able to benefit from long-term therapy," said Naughton, who added that the technology may help with patient compliance considering the serious side effects of many drugs.

Down the road, DermTech hopes the technology will be used in point-of-care testing, in which a kit brought into doctors' offices, along with certain instrumentation, can provide an immediate analysis of skin samples.

"It uses a special adhesive tape about the size of a quarter," Naughton said, "which is put on a person's skin and rubbed in place. That collects cells from the surface of the skin."

The tape-stripping helps the company to recover RNA from surface skin cells for analysis of gene expression.

DermTech started out in 1996 as a clinical trials company focused on testing cosmetics and other skin care products. Over the next eight years, about half of its client base became pharmaceutical companies looking to test dermatologics for various skin disorders. At the same time, DermTech worked on its own research program developing EGIR, and has since attained extensive patents for the technology, and has shown that EGIR can distinguish irritation reactions from allergic reactions.

DermTech's CRO activities were sold last year to PRACS Institute Ltd., of Fargo, N.D., and the research and development division spun off as a separate entity that retained the DermTech name. Since then, the San Diego-based company and its three employees have taken over all development of EGIR, attaining two University of California (UC) Discovery Grants to use the technology in diagnosing early stage melanoma and prostate cancer.

The UC discovery grants include one for \$138,000 awarded in June to create a set of genetic profiles representing pigmented skin lesions that can be used as an aid in the diagnosis of early melanoma when it is most treatable.

Current methods of diagnosing melanoma can be cumbersome. Patients with several moles over their body need to go to their physician and dermatologist at least twice a year to have the moles photographed in order to check for any changes. The EGIR technology allows doctors to "go back to the same lesion over and over again," retesting it for malignancies, Naughton said.

The other UC discovery grant for \$1.8 million will go toward a study comparing the gene expression profiles of skin from men with and without prostate cancer to create a set of representative biomarkers that can be used to screen

for the disease. Cancer cells circulate in the bloodstream and can affect other organs and tissues, including the skin. If prostate cancer causes a change in the skin that is not visible but can be detected at a molecular level, the EGIR technology may prove to be an effective diagnostic.

The current method of diagnosing the disease, a simple prostate-specific antigen (PSA) test, brings Beckman Coulter Inc., of Fullerton, Calif., between \$350 million and \$400 million in revenues a year, Naughton said.

Since its founding, DermTech has raised \$7 million for the development of EGIR. A partner would help fund further development of the technology, since DermTech is responsible for half of the direct costs of each Discovery award.

"In terms of it being used as a research tool, we believe with the right partner we could go and have this on the market within the next nine to 12 months," Naughton said.

The company also is continuously looking for investors interested in the EGIR technology. It does not intend to go public anytime soon because it wants to further develop its platform.

DermTech intends to collect data over the next two or three years before bringing the EGIR technology to the market in the form of clinical diagnostic kits. The field of theranostics represents a huge opportunity for the company, Naughton said, one in which the EGIR technology could one day replace biopsies and help drug companies eliminate bottlenecks that slow down drug development.

"If you have greater efficacies," she said, "the sooner the products can go and get approved in the marketplace." ■