

WaferGen Biosystems, Inc.
Corporate Fact Sheet

As of August 5, 2010

Ticker: OTCBB:WGBS
52-wk range: \$0.65 - \$2.87
Employees: 37
Headquarters: Fremont, Calif.
Fiscal yr end: December 31
CEO: Alnoor Shivji
Web: www.wafergen.com
Contact: Mona Chadha
510-651-4450
mona.chadha@wafergen.com

WaferGen Biosystems, Inc. is an emerging leader in the development, manufacture and sale of state-of-the-art systems for genomic analysis for the life science and pharmaceutical industries. The company is actively marketing its SmartChip™ Real-Time PCR System for the gene expression and genotyping markets. In the first half of 2010, the company also launched the SmartChip fee-based service, announced a total of ten early-access customers and shipped the first international system following receipt of a CE Mark for the SmartChip System.

Market Need

Sequencing of the human genome has brought about a new healthcare paradigm in which disease is understood at the molecular level, providing the potential for a patient to be diagnosed according to genetic information and treated with therapeutics designed to work on specific molecular targets. With personalized medicine – the use of information about a person’s genes to prevent, diagnose and treat disease – researchers can target patients based on their genes and develop specific therapies for specific patients.

The optimum result will be therapies less expensive to develop that are more targeted, more likely to be effective and therefore more likely to become a successfully approved drug. This new paradigm has led to the need for accurate, highly sensitive, high-throughput gene expression data by

researchers, clinicians and pharmaceutical companies.

Specifically there is a growing need for improved biomarker discovery and signature validation. Biomarkers are gene expression patterns. Comparison of biomarkers between normal and diseased patients or expression profiles in the presence or absence of drugs leads to discovery of genes or a set of genes that can be used in drug development. This requires monitoring of tens, hundreds or thousands of microRNAs in large numbers. There is a growing need to validate and screen products at an earlier stage as well as to reduce clinical trial and gene expression bottlenecks.

Microarray technology is one method to determine which genes are active in a given cell. However, microarray technology has limited sensitivity, accuracy and dynamic range capturing only 20-40% of the

expressed genes and giving scientists only a partial view of the expression profile. A second technology, real-time PCR (polymerase chain reaction), is a more sensitive and precise method to measure gene expression. However, it lacks the high-throughput capability and cost efficiencies of existing microarrays.

SmartChip Real-Time PCR System

The SmartChip platform combines the high-throughput capability and cost efficiencies of existing microarrays, with the sensitivity and accuracy of real-time PCR. It is targeted at scientists involved in the discovery and validation of molecular biomarkers. The platform utilizes pathway-specific gene panels to discover and validate new biomarkers. The system is designed to provide a number of key ease-of-use features including content-ready chips with gene panels optimized for microRNA, cancer, and whole genome

WaferGen Service for Gene-Expression Profiling Using the SmartChip™ Real-Time PCR System

WaferGen offers the SmartChip Gene-Expression Profiling Services to universities, research hospitals, pharmaceutical and biotechnology companies performed by WaferGen

scientists at the company's headquarters facility in Fremont, Calif.

SmartChip Customers

Early customers of the SmartChip System and/or SmartChip Gene Expression Profiling Services include major universities and service providers in the U.S., Europe and Japan: DNA Chip Research Inc. (Japan), Ghent University (Belgium), Kyoto University (Japan), Stanford University, University of California at San Francisco, University of Pittsburgh, University of Southern California (USC), the University of Texas, Health Science Center at Houston, the University of Texas Southwestern, and an undisclosed U.S. biotech company. Research underway at these organizations includes applications for lung disease, wound healing, stem cell research and oncology.

David Gelfand, Ph.D., PCR Pioneer

The development of the SmartChip system with its next-generation chemistry and optimized assays is under the guidance of David Gelfand, Ph.D., Chief Scientific Officer. Dr. Gelfand is one of the pioneers of PCR having helped develop the technique while at Cetus Corporation in the 1980s.

Collaborators

University of Pittsburgh Medical Center	Novel gene expression research in the areas of advanced lung disease using SmartChip system as the key platform for high throughput validation.
University of Texas Southwestern	Identify and validate gene expression biomarkers related to wound healing
Ghent University (Belgium)	Validate a biomarker signature for childhood cancer neuroblastoma to aid in detection and therapy; also evaluate various disease states using microRNA; develop software for real-time PCR data analysis