Circulomics Awarded Nearly $1M to Develop Multiplex MicroRNA Assay

The Associated Press

Circulomics Inc has been awarded two Small Business Innovative Research (SBIR) Phase I awards, totaling $800k over 2 years, to develop its Ligo-miR microRNA assay technology and PicoSep single molecule analysis instrument. These awards were made through the National Institutes of Health's (NIH) SHIFT initiative. They foster the transformation of academic scientific discoveries into commercial products and feature substantially larger scope than typical SBIR Phase I awards. According to Circulomics CEO Dr. Kelvin Liu, "We see a critical market need for new molecular assays that are not only powerful in nature but also cost effective and easy to use. Winning two such highly competitive awards validates both the novelty of our technologies as well as the new thinking with which we are approaching the market."

miRNA biomarkers have been propelled to the forefront of medical research based on their unparalleled power of discrimination. Not only can they discriminate between cancerous and healthy tissue, but they are uniquely able to identify cancer type and origin as well. Circulomics' Ligo-miR microRNA profiling technology uses PCR-free, ligation-based multiplexing to acquire the expression profile of 10-100 microRNA in a single streamlined assay. Dr. Liu adds, "As the science behind miRNA matures, Ligo-miR technology is poised to meet the emergent need for efficient mid-level multiplexing tools." Unlike competing multiplex assay technologies which require complex assay protocols and expensive detection instruments, Ligo-miR technology fits within conventional research workflows. Using only commonly available molecular biology equipment, Ligo-miR achieves > 100-fold higher sensitivity, > 10-fold lower cost per sample, and > 10-fold higher sample throughput than microarray based approaches.

For the most discriminating applications, Circulomics is developing its PicoSep single molecule analysis instrument. PicoSep uses micro-/nanofluidics and single molecule technology to perform molecular analysis with as little as 5 picoliters of sample and less than 100 DNA molecules. This platform enables PCR-like sensitivity with near-zero sample consumption while remaining substantially less complex than existing techniques.

Circulomics has also been awarded $75k by Maryland TEDCO to develop its first commercial product based on Ligo-miR technology called Ligo-miR EZ. Ligo-miR EZ is an assay kit for cancer research containing all probes, reagents, and buffers necessary to perform 30-plex miRNA profiling on 50 samples. The expected launch date is early 2014.

About Circulomics

Circulomics Inc is a biotechnology spin-off from Johns Hopkins University that is developing multiplexed assays for biomarker analysis.

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