



ONTARIO INSTITUTE FOR CANCER RESEARCH ANNOUNCES INVESTMENT IN MICROFLUIDICS TECHNOLOGY FOR THE DISCOVERY OF ANTI-CANCER DRUGS

Smart Well-Plate™ Ushers in New Paradigm for High-Throughput Screening Technology

TORONTO, March 24, 2011 – The Ontario Institute for Cancer Research (OICR) announced today it has made an investment to accelerate commercialization of a potentially revolutionary high-throughput screening technology directed at the discovery of anticancer drugs. The technology, Smart Well Plate™, developed at the University of Toronto, is a palm-sized device that utilizes digital microfluidics (DMF), a technique that allows manipulation of cells and tiny droplets of liquid on an open platform with no moving parts.

“The Smart Well-Plate technology may allow for less expensive screening of chemical libraries and elimination of false leads earlier in the drug discovery process, ensuring a higher success rate for clinical trials focused on cancer” said Frank Stonebanks, Vice-President, Commercialization and Chief Commercial Officer of OICR. “OICR’s investment is engineered to move this promising technology closer to commercialization.”

High-throughput screening, or HTS, is the universal first step in drug development, allowing chemists and scientists to test biological samples with chemical entities as a starting point for drug design and for understanding a particular biochemical process. It combines robotics with data computing, liquid handling devices, and sensitive detectors that allow researchers to quickly conduct millions of biochemical, genetic or pharmacological tests. The HTS process allows for rapid identification of active compounds, antibodies or genes that modulate a particular biochemical pathway.

In recent years, the introduction of microfluidics has improved the HTS process by miniaturizing cell-based assays. However, the process is limited by the complexity of controlling the reagents simultaneously in interconnected channels. In addition, microfluidics heavily relies upon robotics.

DMF takes the screening concept a step further, by reducing robotics and simplifying reagent handling. It allows droplets containing mammalian cells to be addressed with compounds from chemical libraries in a highly efficient and low-cost manner, allowing automated, fast, and reliable analysis of chemical entities. Most importantly, a much smaller amount of cells and reagents are required to do the same testing.

The principal investigators for the Smart Well Plate™ are Dr. Aaron Wheeler, Associate Professor of Chemistry at the University of Toronto, and internationally recognized analytical chemist and renowned cancer expert Dr. Jeff Wrana, Senior Investigator at the Samuel Lunenfeld Research Institute of Mount Sinai Hospital, Toronto.

“Ontario is proud to be home to world-class researchers like Dr. Aaron Wheeler and Dr. Jeff Wrana,” said Glen Murray, Ontario’s Minister of Research and Innovation. “Along with supporting the pursuit of new and better cancer treatments, the province’s investments in OICR are helping promote R&D commercialization, capitalizing on opportunities to develop new technologies and create jobs.”

OICR’s investment is administered through the Intellectual Property Development and Commercialization Program, which provides seed funding for late stage academic projects that meet specific market-oriented criteria.

OICR will work closely with MaRS Innovation, the lead commercialization agent for this technology and the Innovations & Partnerships Office of the University of Toronto to support effective commercialization.

About OICR

OICR, based in Ontario, Canada, is an innovative cancer research and development institute dedicated to prevention, early detection, diagnosis and treatment of cancer. The Institute is an independent, not-for-profit corporation funded by the Government of Ontario through the Ministry of Research and Innovation. OICR has 500 scientific staff (located at its headquarters and in research institutes and academia across the Province of Ontario) and an \$85 million annual operating budget. It has key research efforts underway in small molecules, biologics, stem cells, imaging, genomics, informatics and bio-computing, from early stage research to Phase I clinical trials.

For more information, please visit the website at www.oicr.on.ca/commercialization.

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