



NEWS

DVS Sciences Unveils First-in-Class Mass Cytometer for Use in Understanding and Diagnosing Disease

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Ontario Genomics Institute
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Toronto, November 17, 2009 – Marking the culmination of six years of technology development research funded by Genome Canada through the Ontario Genomics Institute (OGI) and others, a Toronto research team unveiled a first-in-class analytical instrument at the recent Great Lakes International Imaging and Flow Cytometry Association annual meeting in Pittsburgh. **CytoTOF™ Mass Cytometer, being made and marketed by DVS Sciences (Toronto), was developed by a team led by Dr. Scott Tanner (University of Toronto, and co-founder and CEO of DVS Sciences). The instrument is capable of simultaneous quantitative and independent determination of up to 100 biomarkers in individual cells, not possible with existing technologies. In addition to many basic research applications, this has potential for early disease diagnoses and monitoring of treatment efficacy in individual patients through quicker and more effective tissue sample analysis.**

The **CytoTOF™ Mass Cytometer addresses the challenges of flow cytometry using inductively coupled plasma mass spectrometry, thereby combining two previously unrelated technologies. . . The technology provides massively multi-parameter single cell analysis, addressing the challenges of flow cytometry through the novel and powerful approach of using stable isotope tags with atomic mass spectrometer detection. This enables researchers to rapidly and specifically identify very rare cells with distinct surface markers – such as cancer initiating cells – in patient samples. Tanner and his team have also developed **MAXPAR™ Reagents, which are new bioanalytical reagents for massively multi-parametric labelling of cells for mass cytometry. Already, and leading up to the public unveiling of the technology, sales have reached nearly CAD \$2.5 million with the sale of three instruments and some 100 reagent kits.****

"Molecular diagnostics has begun to revolutionize medicine," commented Dr. Christian Burks, President and CEO of OGI. "The ability to identify a large number of biomarkers on a cell-by-cell basis will accelerate our characterization of the molecular basis of disease and the subsequent development of diagnostic, prognostic and therapeutic products based on those biomarkers. The **CytoTOF™ technology has the power to vastly improve the depth and range of cellular analysis, and will, down the line, provide a diagnostic tool that could define the new standard-of-care benchmark in hospitals, clinics and research departments around the world.**"

Funds for the development of the mass cytometer were first awarded in 2003 under Genome Canada's Applied Genomics and Proteomics Research in Human Health competition (Mass Spectrometer-based Flow Cytometer, Methods and Applications – principal investigator: Dr. John Dick), and more recently in 2008 under Genome Canada's Technology Development competition (Massively Multiparametric Flow Cytometer Analyzer – principal investigator: Dr. Scott Tanner), which funds the development of new enabling technologies that will be available to researchers across Canada within two years of project completion. Funding for this project totals \$10.6 million, including money from Genome Canada through OGI, Ontario's Ministry of Research and Innovation's Ontario Research Fund (MRI-ORF) and other funders, notably the Ontario Institute for Cancer Research (OICR), which also invested in DVS Sciences through its commercialization program and provided business advice and support.

"The Genome Canada and MRI research funding that led to this product was absolutely essential," commented Dr. Tanner. "Additionally, the staff and resource support by OGI, as we began pushing on the translational product development, was instrumental in getting our product launched. We are looking forward to the next phase of DVS Sciences, based on expanded uptake of these products in the life sciences and biomedical sectors."

"It is gratifying and important to see the research we fund being translated into the marketplace," commented Dr. Thomas Caskey, Chair of Genome Canada's Board of Directors. "Canada has, over the past decade, established global prominence on the genomics and proteomics research fronts. It is exciting to see the knowledge gained being converted to market impact by a Canadian company."

Tanner's aim is to grow the business to become a significant research, development and manufacturing entity in Canada, and a significant employer of highly skilled technical people, helping to create new jobs in science as well as aiding growth in the manufacturing sector by outsourcing the manufacture of product components. The DVS Sciences founding team has, between them, over 90 years of combined commercial product development experience, which has been essential in the rapid translation of the initial research.

About OGI

The Ontario Genomics Institute (OGI) is a private, not-for-profit corporation focused on using world-class research to create strategic genomics resources and accelerate Ontario's development of a globally-competitive life sciences sector. Through its relationship with Genome Canada, the Ontario Ministry of Research and Innovation (MRI), and other private and public sector partners, OGI works to: identify, attract and support investment in Ontario-led genomics research; catalyze access to and the impact of genomics resources; and, raise the visibility of genomics as well as its impact and associated issues.

For more information on OGI, please visit: www.OntarioGenomics.ca

For further information on Genome Canada visit: www.GenomeCanada.ca

For further information on MRI-ORF visit: www.mri.gov.on.ca

For further information on OICR visit: www.oicr.on.ca

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