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Australia's First Single-Cell genomics Centre of Excellence Opens at Monash HTP

Through an innovative and entrepreneurial approach to genomics medicine, the Centre intends to accelerate scientific discoveries.

MELBOURNE, Australia and SOUTH SAN FRANCISCO, California, Sept. 4, 2015 – A partnership among Monash University, the University of Melbourne, the University of Newcastle and the Hudson Institute of Medical Research, working with single-cell biology leader Fluidigm Corporation (NASDAQ:FLDM), today established Australia's first Single-Cell Genomics Centre of Excellence. The Centre will be housed at Monash Health Translation Precinct's (MHTP) Medical Genomics Facility in Clayton, Victoria, Australia.

The Monash Health Translation Precinct was created by the Hudson Institute of Medical Research, Monash University and Monash Health to bring researchers and clinicians together to directly translate discoveries into improved healthcare.

Single-cell biology is one of the fastest growing areas of life sciences discovery. Traditionally, biological experiments have been performed assuming all cells that look alike are identical. However, recent data suggest that individual cells that appear the same may differ quite significantly in their genetic makeup, and these differences can drive the health and function of the entire cell population. Characterizing cellular variations apparently homogenous populations has become crucial to advancing research and development in stem cell cancer immune responses, studying the effectiveness of biological therapies, and discovering the mechanisms of neurodegenerative diseases.

Fluidigm is the leader in developing novel technologies and tools for isolating and analyzing individual cells. Fluidigm's technology allows time-dependent measurements at the single-cell level to provide information on the status of a given cell. This fundamental information will lead to diagnostic methods and therapeutic treatments related to human disease states.

"This Single-Cell Genomics Centre cements the MHTP Medical Genomics Facility as an Australian leader in platform technologies, servicing more than 400 researchers from the Hudson Institute of Medical Research, as well as Monash University and Monash Health, the wider Victorian and national scientific communities," said Professor Bryan Williams, Director of the Hudson Institute of Medical Research.
"The Centre will play a vital role in accelerating the translation of our discoveries into new treatments for disease to enable a far greater impact on human health," added Professor Williams.

"Single-cell genomics research is enabling scientists to discover new principles of how our organs function," said Professor Paul Hertzog, Head of the Centre for Innate Immunity and Infectious Diseases at the Hudson Institute and the research leader of the initiative to establish Fluidigm's technology in Australia.

"This partnership with Fluidigm will provide Australian scientists early access to breakthrough developments in this technology and therefore the opportunity to be world leaders in the field," added Hertzog.

"I am continually humbled by the amazing complexity of the cellular landscape. We believe that this complexity can only be resolved at the single-cell level and that it is at the core of understanding biology," said Gajus Worthington, Co-founder, CEO and President of Fluidigm Corporation.

The Single-Cell Genomics Centre of Excellence

Australia's new Single-Cell Genomics Centre of Excellence will encourage its researchers to test the barriers of single-cell understanding to accelerate scientific discoveries. The information generated by this research will be crucial to advancing knowledge in important research fields including infection and immunity, regenerative medicine, biomarker discovery, drug discovery, biotechnology and agriculture. Single cells, such as stem cells, can be analyzed to provide critical insight into cellular activities and responses in normal cell development and disease.

For example, Associate Professor Jose Polo's group at Monash University is continuing to explore the universality of the molecular events that occur during reprogramming of different cells in order to decipher the true identity of adult stem cells. Due to the low abundance of reprogrammable intermediates and adult stem cells, the technological capabilities of the new Centre will be of critical importance. The Centre will allow Assoc. Prof. Polo's research team to combine their cell isolation protocols with Fluidigm's C1™ Single-Cell Auto Prep and Biomark™ HD systems to analyse the transcription of hundreds of genes at the single cell level. Identifying these transcriptional signatures will be important to Assoc. Prof Polo's work in

isolating homogenous adult stem cell populations and reprogramming intermediates from different tissues.

“Single cell research holds great promise in helping researchers to understand some of the most troublesome life science questions. We now know that the heterogeneity of cell populations is greater than previously believed and this plays an important role in both physiological and pathological conditions. Single-cell technology is revolutionising genomics medicine, allowing us to discover different cell types that have remained elusive until now,” said Assoc. Prof. Polo.

“Furthermore, in the field of developmental biology, where the number of cells from different stages is fewer than the fingers on your hands, single-cell technology is proving key to helping us understand fundamental developmental processes,” continued Assoc. Prof. Polo.

“Today’s announcement of the first single-cell centre of excellence in the southern hemisphere is a wonderful example of how like-minded parties, working collaboratively, can create something special and transformative,” said Hana Gage, Vice President, Commercial Operations, Pacific Asia and Latin America, Fluidigm Corporation.

The Centre is the result of ARC LIEF funding and the generous support of Fluidigm, Monash University, University of Melbourne, University of Newcastle and the Hudson Institute.

The Technology

The Single-Cell Genomics Centre of Excellence at Monash Health Translation Precinct's Medical Genomics Facility currently features the Fluidigm C1 system that enables researchers to rapidly and reliably isolate, process and profile individual cells for genomic analysis.

The Centre also hosts a Fluidigm Biomark HD system that enables automated high throughput qPCR of over 9,000 targets in a single run, providing researchers with flexible, efficient and economical PCR solutions for a wide variety of sample types and chemistries. The Biomark HD system runs microfluidic integrated circuits in either real-time or end-point read modes to deliver reliable production-scale throughput and exquisite single-cell sensitivity.
Together, the C1 and Biomark systems also enable high-throughput single-cell mRNA sequencing, targeted gene expression, mRNA sequencing, miRNA expression profiling, targeted DNA sequencing, whole exome sequencing and whole genome sequencing.

To facilitate use of the Fluidigm system, the Centre manages a 5,000 Taqman Assay Library.

About Monash Health Translation Precinct

The Monash Health Translation Precinct (MHTP) is a partnership among Monash Health, Victoria’s largest public health service, the Hudson Institute of Medical Research, one of Australia’s top medical research institutes, and Monash University, Australia’s largest university with an international reputation for innovative health research.

The MHTP is also a critical component of the Monash Partners Academic Health Science Centre.

The MHTP’s vision is to be a world leader in translational research, generating innovative scientific discoveries and revolutionising clinical care in a dynamic and collaborative environment.

To learn more about MHTP, please visit: http://www.mhtp.org.au

About Fluidigm

Fluidigm (NASDAQ:FLDM) develops, manufactures, and markets life science analytical and preparatory systems for growth markets such as single-cell biology and production genomics. We sell to leading academic institutions, clinical laboratories, and pharmaceutical, biotechnology, and agricultural biotechnology companies worldwide. Our systems are based on proprietary microfluidics and multi-parameter mass cytometry technology, and are designed to significantly simplify experimental workflow, increase throughput, and reduce costs, while providing excellent data quality. Fluidigm products are provided for Research Use Only. Not for use in diagnostic procedures.

We use our website (www.fluidigm.com), corporate Twitter account (@Fluidigm), Facebook page (https://www.facebook.com/Fluidigm), and LinkedIn page (https://www.linkedin.com/company/fluidigm-corporation) as channels of distribution of information about our products, our planned financial and other announcements, our attendance at upcoming investor and industry conferences, and other matters. Such information may be deemed material information and we may use these channels to comply with our disclosure obligations under Regulation FD. Therefore, investors should monitor our website and our social media accounts in addition to following our press releases, SEC filings, public conference calls, and webcasts.

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