SAIC-Frederick And Fluidigm Collaborate To Decode Genome Of Epstein-Barr Virus, A Cancer Risk-Factor

FREDERICK, Md., July 1, 2010 – SAIC-Frederick, Inc. and Fluidigm Corporation are collaborating to decode the entire genome of the Epstein-Barr virus (EBV) using technology that can speed up research on the genetic basis of cancer and other diseases.

Herpes-related Epstein-Barr is one of the most common viruses in humans. EBV establishes lifelong infections that are typically asymptomatic but in rare instances lead to the development of various diseases including some cancers. Understanding the virus at the genetic level should provide insights into why some infected individuals become ill, while others do not. This knowledge could help medical scientists design new, more effective approaches to treatment.

SAIC-Frederick, prime contractor for the National Cancer Institute's research and development facility in Frederick, Md., is looking for ways to speed up the translation of basic research. The collaboration with Fluidigm is part of this NCI Advanced Technology Partnerships Initiative.

Under the collaboration, SAIC-Frederick researchers at the Core Genotyping Facility are using the Fluidigm Access Array™ system to target and amplify the genome of EBV DNA virus taken from human volunteers. Once the targeting and subsequent amplification has taken place, the DNA can be processed through next generation sequencing equipment that decodes the DNA's chemical sequence in sufficient depth to illuminate key genetic variations. Some of these sequences have already been decoded and now can be further studied.

"Our team was able to target, capture and amplify the entire EBV genome from human DNA samples in an easy and cost-effective manner prior to sequencing," said Amy Hutchinson, Director of Operations for NCI's Core Genotyping Facility. Hutchinson is employed by SAIC-Frederick, the contractor that operates the facility for NCI.

Conventional DNA amplification techniques require three steps before gene sequencing can begin – one step to combine samples and reagents for amplification, a second step to make enough copies (amplification) for sequencing, and a third step to attach sequence adaptors prior to sequencing. The Fluidigm Access Array technology combines these steps into one. This results in a significant savings in terms of starting material required, research time and overall project costs.

"Fluidigm's Access Array technology is the easiest, most cost-effective and consistent way to amplify and prepare multiple samples for targeted resequencing. When combined with almost any next-generation sequencer, researchers can efficiently explore diseases and decipher the genetic codes that might hold the keys to prevention or cure," said Gajus Worthington, Fluidigm President and Chief Executive Officer.

About SAIC-Frederick

SAIC-Frederick, Inc., a wholly owned subsidiary of Science Applications International Corporation (SAIC), a Fortune 500® company, is the operations and technical support contractor for the National Cancer Institute's research and development center in Frederick, Md. This is a national laboratory dedicated to rapidly translating basic research into new technologies for diagnosing, treating, and preventing cancer and AIDS. SAIC-Frederick maintains a full suite of advanced technologies in areas such as nanotechnology, genomics and imaging; operates the federal government's drug and vaccine manufacturing facilities; operates the high-performance Advanced Biomedical Computing Center; and supports more than 300 clinical trials for patients in the United States and around the world.

Information about the NCI's Advanced Technology Partnerships Initiative can be found at the ATPI Home Page: http://atp.ncifcrf.gov/atpi/

About Fluidigm

Fluidigm develops, manufactures and markets proprietary Integrated Fluidic Circuit (IFC) systems that significantly improve productivity in life science research. Fluidigm's IFCs enable the simultaneous performance of thousands of sophisticated biochemical measurements in extremely minute volumes. These "integrated circuits for biology" are made possible by miniaturizing and integrating liquid handling components on a single microfluidic device. Fluidigm's systems, consisting of instrumentation, software and IFCs, increase throughput, decrease costs and enhance sensitivity compared to conventional laboratory systems.

For more information, please visit www.fluidigm.com

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