



MOgene Adds BioNano Genomics' Next-Generation Mapping Capabilities to its Genomics Service Portfolio

Addition of Irys® System enables MOgene to offer the most extensive genomic solutions ranging from short reads to long range information

SAN DIEGO, CA – November 17, 2016 – MOgene, LC, a full service, global genomics service provider, and BioNano Genomics, Inc., the leader in physical genome mapping, today announced the adoption of an Irys® System at MOgene's Bio Research & Development Growth (BRDG) Park facility at the Danforth Plant Science Center in St. Louis. By adding BioNano's Next-Generation Mapping (NGM) to its suite of genomics solutions, MOgene will be able to address the needs of customers who are increasingly seeking to reveal true genome structure as a critical component in their research.

MOgene's existing service offerings in genomics include short read sequencing from Illumina and long read sequencing from PacBio. The Irys® System introduces optical mapping to their repertoire, to reveal ultra long-range genomic information enabling two unique capabilities. First, by combining sequencing data and BioNano mapping data, MOgene will be able to create reference-quality genome assemblies for the abundance of non-model organisms for which no reference exists or organisms where the existing assemblies would benefit from improvement or diversification. Additionally, Irys® can be used as a stand-alone tool to screen genomes to reveal structural variations (SVs) ranging from 1 kilobase pair to megabase pairs in size. BioNano's sensitivity to SVs in this size range is unparalleled in genomics, enabling MOgene to differentiate its offerings.

Shaukat Rangwala, Senior Vice President of MOgene LC, commented, "Our customers will find the incorporation of next-generation mapping to our portfolio of innovative genomic service offerings to be incredibly valuable. BioNano's NGM with the Irys® System enables us to offer better genomic solutions and match the sequencing needs of academic and commercial researchers. Both as a standalone technology and as a complement to the long-range sequencing techniques developed by PacBio, NGM using the Irys® System collectively addresses the diverse needs of our customers who would like to generate complete genome assemblies or want to have a more complete view of structural variations present in the genome."

Erik Holmlin, Ph.D., CEO of BioNano Genomics, commented, "Genomic service providers such as MOgene are leading the way to provide researchers with the latest available solutions in genomics, allowing them to achieve more comprehensive and complete genome analyses. MOgene's adoption of the Irys® System is a clear indication that NGM is becoming essential among the suite of tools used for genome analysis, and we look forward to supporting MOgene as they provide data and insights discovered using NGM to researchers worldwide."

About The Irys® System

The Irys® System provides a comprehensive view of the whole genome via single molecule imaging, facilitating high resolution *de novo* mapping without the guidance of a reference genome and generates valuable insights about the biology of the genome based on information about the order, orientation,

arrangement, and interaction of genomic components. The Irys® System uses IrysPrep® Reagents to extract and label long DNA molecules and the IrysView® and IrysSolve® software to provide powerful *de novo* assemblies and analysis of the genome.

About MOgene LC

MOgene, a Limited Liability Company has been in operations since February 2004. The company has established solid reputation as a global genomics service provider to academic, government and industrial research groups and institutions. MOgene offers nucleic acid isolation, library preparation, microarrays, Real-Time PCR, NextGen sequencing, Next-Generation Mapping, sequence capture and bioinformatics. MOgene is also CLIA certified. www.mogene.com

About BioNano Genomics

BioNano Genomics, Inc., the leader in next-generation mapping (NGM), provides customers with genome analysis tools that advance human, plant and animal genomics and accelerate the development of clinical diagnostics. The Company's Irys® System uses NanoChannel arrays integrated within the IrysChip® to image DNA at the single-molecule level with average single-molecule lengths of about 350,000 base pairs, which leads the genomics industry. The long-range genomic information obtained with the Irys System helps decipher complex DNA involving repeats, which are the primary cause of inaccurate and incomplete genome assembly.

On its own, next-generation mapping with the Irys System enables detection of structural variants, many of which have been shown to be associated with human disease as well as complex traits in plants and animals. As a companion to next-generation sequencing (NGS), next-generation mapping with the Irys System integrates with sequence assemblies to create contiguous hybrid scaffolds that reveal the highly informative native structure of the chromosome.

Only BioNano Genomics provides long-range genomic information with the cost-efficiency and throughput to keep up with advances in next-generation sequencing.

The Irys System has been adopted by a growing number of leading institutions around the world, including: National Cancer Institute (NCI), National Institutes of Health (NIH), Wellcome Trust Sanger Institute, BGI, Garvan Institute, Salk Institute, Mount Sinai and Washington University. Investors in the Company include Domain Associates, Legend Capital, Novartis Venture Fund and Monashee Investment Management.

For more information, please visit www.BioNanoGenomics.com.

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