10x Genomics Announces the Addition of Unbiased Gene Expression and B-cell Repertoire to the Chromium Single Cell V(D)J Solution

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– New products for profiling adaptive immunity will be presented at the 67th Annual Meeting of the American Society of Human Genetics (ASHG) held in Orlando, FL –

PLEASANTON, CA.—October 18, 2017— 10x Genomics, a company focused on enabling the mastery of biology by accelerating genomic discovery, this week will launch new products for their Chromium Immune Repertoire Profiling Solution utilizing massively-parallel single cell RNA-seq (scRNA-seq) to sequence paired V(D)J B-cell receptors, together with unbiased gene expression for reading the immune-repertoire along with cell phenotype. The new products and applications will be unveiled at the 67th Annual Meeting of the American Society of Human Genetics (ASHG) being held from October 17th to 21st in Orlando, Florida

The new B-Cell and 5'Unbiased Enrichment Kits will add to the Chromium V(D)J Solution for Immune Repertoire Sequencing, first launched for paired T-Cell receptor sequencing last spring. The new products add key features to the existing solution, including unbiased digital gene expression via 5' cell-linked barcoding and UMI tagging of cellular transcripts on a single cell basis, together with full-length, paired human B-cell immunoglobulin sequencing, including isotypes. The full combination of features within the updated Single Cell V(D)J Solution now enable a single sample to be analyzed simultaneously for cellular heterogeneity, phenotype, T-cell receptor repertoire, and B-cell immunoglobulin repertoire.

"With the updated Single Cell V(D)J platform it will be possible to assess the adaptive immune receptor repertoire as well as the cellular context of this immune response on a single-cell basis," stated Brian Fritz, product manager of immune repertoire solutions at 10x Genomics. "Importantly, the product update also addresses the needs of researchers for computational tools to make analysis and visualization of this new kind of data accessible to the non-bioinformatician."

The new product release will include new versions of the Cell Ranger and Loupe Software Package for analysis and visualization of single-cell gene expression and immune repertoire data. The new software updates will introduce the capability to integrate datasets with Loupe Cell Browser and Loupe V(D)J Browser software packages to enable the visualization of relationships between scRNA-seq transcriptome-based cell states overlaid with immune diversity and clonality.

The two new enrichment products add new capabilities, making the Single Cell V(D)J Solution more comprehensive while still providing core features that enable rapid and efficient immune repertoire profiling of single cells. The solution is fully compatible with Illumina® sequencers, can partition 100-10,000+ cells per channel in < 7 minutes and run 1 to 8 channels in parallel, making it the most scalable system on the commercial market. There is also no lower size limit on cells opening up a broad array of sample types to immune characterization. With the ability to recover up to 65% of all loaded cells and achieve a low doublet rate of 0.9% per 1,000 cells, the new solution provides the most effective way to capture cells for immune repertoire analysis with scRNA-seq.

The combination of these multiple genomic data inputs will allow for the comprehensive, scalable and consistent analysis of complex tissue samples, including the study of tumor heterogeneity and the adaptive immune response within tumor microenvironment. Further critical applications will include deeper analysis into complex autoimmune, infectious and other immune-related diseases, as well as to the development of novel immunotherapies and vaccines.

"10x is excited to launch the capability to study complex immune-related diseases and samples at a level of resolution never before available to the research community," said Serge Saxonov, co-founder and chief executive officer of 10x Genomics. "This is a brand new way to look at the immune system that will illuminate a more comprehensive understanding of disease."

The new products will be available in November, 2017, and will include new reagent kits for 5' Unbiased gene expression, B-Cell enrichment, as well as software updates to the Cell Ranger and Loupe Cell and Loupe V(D)J Browsers.

The company's new products and solutions will be showcased in platform presentations and workshops at the 67th Annual Meeting of the American Society of Human Genetics (ASHG) being held from October 17th to 21st in Orlando, Florida:

- "Advancing Genomic and Single-Cell Sequencing Drop-by-Drop with the 10x Chromium System" on Wednesday, October 18th, from 12:30 pm – 1:45 pm
- "Intuitive Tools for Sequence Analysis: Crunching Genomic, Single-Cell, and Immune Repertoire Data Using 10x Chromium Software" on Thursday, October 19th, from 7:15am – 8:45am
- "Automation Compatible Linked Read Analysis of Dried Blood Spots" on Thursday, October 19th, from 7:15am – 8:45am
- "Direct reconstruction of human genomes capturing highly divergent regions including MHC" by Dr. Neil Weisenfeld on Thursday, October 19th, from 11:00am – 11:15am
- "Dissecting the microenvironment of multiple tumor types using 5' and 3' single cell RNA-seq," by Dr. Stéphane Boutet on Thursday, October 19th, from 11:30am – 11:45am

For a full list of customer presentations or to register for the exhibitor workshops, please visit the 10x Genomics ASHG Website and download the 10x ASHG 2017 Show Guide. For more information on new product updates and product launches, stop by the company's booth (#748) during the conference.

About 10x Genomics

10x Genomics is changing the definition of sequencing by providing an innovative genomics platform that dramatically upgrades the capabilities of existing sequencing technologies. This is achieved through a combination of new microfluidic science, chemistry and bioinformatics. By implementing GemCode Technology within the Chromium System, researchers can now, for the first time, find new structural variants, haplotypes and other valuable genomic information with comprehensive workflows for Single Cell, V(D)J, Genome, Exome and *de novo* Assembly applications that incorporate their pre-existing sequencing technologies.

For more information about 10x Genomics, visit www.10xGenomics.com

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