



## 10x Genomics Launches First High-Throughput Solution for Adaptive Immune System Analysis at Single-Cell Resolution

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– *The Chromium Single Cell V(D)J Solution enables the scalable identification of paired T-cell transcripts from hundreds to millions of lymphocytes, an essential capability for immunotherapy development and proliferation* –

PLEASANTON, Calif. – March 27, 2017 – [10x Genomics](#), a company focused on enabling the mastery of biology by accelerating genomic discovery, today announced the commercial availability of the first high-throughput solution for profiling paired V(D)J transcripts from hundreds to millions of lymphocytes. The ability to more completely identify and characterize the body's immune agents (T and B cells) at the single-cell level will impact our understanding and development of more effective and durable immunotherapies, including immuno-oncology (I/O) drugs for targeted cancer therapy. The new [Chromium Single Cell V\(D\)J Solution](#) will be demonstrated at the annual meeting of the American Association for Cancer Research (AACR) in Washington, DC, April 1-5.

T and B cells generate the incredible diversity of heterodimeric cell surface and secreted antigen receptor genes through the somatic recombination of Variable (V), Diversity (D) and Joining (J) gene sequences. Accurate characterization of this repertoire of paired T-cell receptor alpha and beta chain genes is critical to the characterization of the interaction between antigens and T cells. This understanding will enable and accelerate the ability of researchers to pursue next-generation studies into the true diversity of the paired T-cell and B-cell receptor repertoire. Further, it will allow researchers to apply this understanding to areas such as vaccine development, clonal immune cell dynamics, immune responses to checkpoint blockades, and the development of recombinant antibodies and engineered T cells used in immunotherapies for cancer and other diseases.

“The field of immuno-oncology has been hampered by insufficient resolution of complex molecular biological mechanisms at the cellular level. High-definition V(D)J sequencing has the potential to accelerate and improve the development of immuno-oncology therapies and bring about new powerful ways to track patient response,” said Serge Saxonov, CEO and co-founder of 10x Genomics. “Our robust high-throughput paired gene solution for V(D)J sequencing is now available to the research community without restrictions. We see vast potential for enabling a wave of discovery in translational research and immunotherapy development. The commercial launch of this groundbreaking product is an exciting milestone for our single-cell portfolio and paves the way for additional applications that will be introduced later this year.”

The new V(D)J Solution expands the 10x Genomics industry-leading single cell analysis product portfolio, which also includes the [Chromium Single Cell 3' Solution](#) for gene expression. All of 10x Genomics' products for Single-Cell and Linked-Reads applications, including the Single Cell 3', V(D)J, Genome, Exome and *de novo* Assembly Solutions, can be run on their [Chromium Controller](#) which was launched last year. A dedicated [Chromium Single Cell Controller](#) was also launched late last year for users that exclusively run the Chromium Single Cell 3' and V(D)J Solutions.

The Chromium Single Cell V(D)J Solution has been optimized to provide a cost-effective application for the assembly of full V(D)J sequences —5' untranslated region (UTR) to constant regions— from short-read sequencing on a cell-by-cell basis. Five-prime barcoding limits bias caused by complex multiplex PCR, enables the detection of germline and somatic variants across the entire V(D)J segment and supports cell type classification or phenotyping. The comprehensive solution includes necessary chemistry and microfluidics consumables as well as a complete software suite for the rapid analysis and visualization of large V(D)J datasets, designed for researchers without bioinformatics expertise. The Cell Ranger pipeline leverages barcoding to perform gene expression analysis with single-cell resolution at million-cell scale. The Loupe for Cells visualization application features powerful but easy-to-use clustering and differential expression analysis.

For more information about the Chromium Single Cell V(D)J Solution, please visit <http://go.10xgenomics.com/vdj>.

For attendees of the annual meeting of the American Association for Cancer Research (AACR) in Washington, DC, April 1-5, 10x Genomics will be [demonstrating this application in Booth 1644](#) and in the AACR Exhibitor Spotlight Theatre on Sunday, April 2 from 1:30 – 2:30pm.

### 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, Genome, Exome and *de novo* Assembly applications that incorporate their pre-existing sequencing technologies.

[www.10xGenomics.com](http://www.10xGenomics.com)

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