Case 1:15-cv-00152-RGA Document 545-1 Filed 01/28/19 Page 1 of 31 PageID #: 42813

Exhibit A

Case 1:15-cv-00152-RGA Document 545-1 Filed 01/28/19 Page 2 of 31 PageID #: 42814



Memorial Sloan Kettering Cancer Center

January 9, 2019

Dana Pe'er, Ph.D.

Chair, Computational Biology Program

417 E 68th Street| New York, NY 10065 Phone: 646-888-2619 | Fax: 646-422-0717 peerd@mskcc.org | www.mskcc.org

To Whom It May Concern:

I am chair of the Computational and Systems Biology Program at Memorial Sloan Kettering Cancer Center (MSKCC), scientific director of the Alan and Sandra Gerry Center for Tumor Metastasis and Ecosystems at MSKCC, and founding director of MSKCC's Single Cell Research Initiative (SCRI). In these roles, I collaborate with many clinicians and leading biomedical scientists, both at MSKCC and globally, bringing single-cell approaches to bear light on their research questions. For example, I collaborate with Jim Allison, recipient of the 2018 Nobel Prize in Physiology or Medicine; our joint work applying single-cell approaches to immunotherapy prominently appeared in his Nobel Lecture (Stockholm Dec 2018).

My lab develops single-cell approaches to study development, immunology and cancer, with a focus on tumor-immune interactions and the spread of cancer (metastasis).

I have a long history and substantial expertise in single-cell biology. My contributions to the field began with my 2005 paper in *Science*, demonstrating how statistical structure in single-cell data can uncover biological mechanisms—awarded runner-up to *Science*'s Breakthrough of the Year in 2005. Since then, I have published dozens of papers on the topic in top journals, including *Science, Nature, Cell* and *Nature Biotechnology*. My work has been recognized with the Burroughs Welcome Fund Career Award, NIH Director's New Innovator Award, Packard Fellow in Science and Engineering, Overton Award and NIH Director's Pioneer Award. My expertise is also acknowledged by the community, as I serve in leadership roles on the Human Cell Atlas Project.

I have never received compensation from and have no financial interest in any of the involved parties or related commercial enterprises. I am writing only in the interests of my field, to express my grave concern over the expected consequences of prohibiting sales of 10X Genomics products. I understand that this letter may be submitted to a court, and give you permission to use it in proceedings to oppose an injunction.

Single-cell technologies are enabling a revolution in the biomedical sciences that has the potential to bring great medical benefit to mankind. It would be very damaging to block this momentum. To enable excellence, innovation and scientific discovery, it is critical to foster a diversity of approaches and maintain a climate that incentivizes businesses to advance innovation.

I would like to stress the importance of 10X Genomics technologies in my own sphere of research. Under my leadership, SCRI has engaged with over 35 labs and clinical programs to decipher tumor biology using single-cell approaches, including the characterization of drug-resistant cells and tumor- and metastasis-initiating cells, which could point to innovative new therapies. Our work on tumor-immune interactions attempts to determine when immunotherapy works, why it fails, and to suggest alternative therapeutic approaches. SCRI also engages in impactful projects on auto-immune disease, infectious disease and regeneration. 10X Genomics products have been central in our efforts. It is currently the primary technology at SCRI and has been used to profile over 900 samples and 3.5 million cells from patients, disease models and

healthy controls. It has allowed us to collect data from patient samples of lung, breast, prostate, brain, colon, skin, pancreas and ovarian cancers, providing new insights and leads for new therapies.

Data collected with the 10X Genomics platform served as preliminary data for multiple large grants awarded by the Howard Hughes Medical Institute, US National Institutes of Health, and other funders. This includes the Human Tumor Atlas Network (HTAN) grant, a \$13.4-million award from the National Cancer Institute, as part of the Beau Biden Cancer Moonshot Initiative, to characterize the metastatic transition in lung and pancreatic cancers, two of the deadliest and most metastatic cancers. Losing access to 10X Genomics products would be catastrophic for the efforts of the HTAN, Alan and Sandra Gerry Center and SCRI. It would severely disrupt dozens of ongoing projects.

SCRI constantly evaluates new technologies as these emerge on the market, and we gave BioRad's ddSEQ careful consideration by rigorously testing it on our samples. We identified very serious issues with the ddSEQ and deemed it unsuitable for our needs. In particular, the 10X Genomics platform places a bead in almost every droplet, whereas the BioRad device only includes one bead in every 50 droplets or so, which results in a dramatic loss of cells loaded into the device. Even if the performance of the BioRad product were improved by a factor of 10, the result would still be far inferior to that of 10X. Most of the samples that we profile are precious patient samples, often from a tiny needle biopsy, and do not contain nearly enough cells to be profiled with the BioRad device. Thus, we cannot use the technology to ask important questions such as "how did the patient respond to the drug?" or "what changed that led to drug resistance and relapse?" Moreover, even for large samples with sufficient cell numbers, we found that molecular capture rates are inferior to that of the 10X Genomics platform. Specifically, in our hands-on experience with the BioRad device, we recovered approximately 3times less transcript molecules than when using the older 10X V2 technology for the same sample. This drop in data quality means that much less information can be derived. leaving many discoveries out of reach. Simply put, I would not be able to execute a large part of my research agenda, nor that of many SCRI collaborating labs, without access to 10X Genomics products. The BioRad ddSEQ system, based on the current technical specifications, is not a viable alternative.

Even if BioRad were in the future to begin selling a product that fills the space for which the field is now reliant on the 10X Genomics products, the disruption to research would be great. Even a new and greatly improved product would involve many months of setup, and switching technologies is completely incompatible with most ongoing projects. New technologies typically require substantial time investments to separate biological signal from technological artefacts, and result in significant data loss at instantiation. Case in point, for all ongoing projects we elected to stick with 10X's V2 product, even though their recently released V3 product is clearly superior. Moreover, the difference between the two 10X products is very small relative to the difference between 10X and any non 10X product.

There is currently no market product that can replace the 10X Genomics platform. The immediate effect of an injunction would be to bring great harm to dozens of ongoing projects at MSKCC involving dozens of rare selected patient samples, millions of federal grant dollars, and many years of work by postdoctoral trainees. It would impede the budding careers of young scientists. Lack of a competitive alternative would also cause a major slowdown for projects nearing launch, including those already funded by federal grants such as the HTAN.

Single-cell genomics is a young and thriving field full of innovators in both scientific labs and startups. There are many vital questions that will only be answerable with improved technologies. An injunction against 10X Genomics would stifle young researchers focused on pushing the boundaries of what is currently possible, would hurt the field and would severely limit our lab's ability to study susceptibilities in metastatic cells, mechanisms of drug resistance and potentially discover new therapeutic avenues in cancer treatment.

Sincerely,

Dana Pe'er, PhD.

Donner

Chair, Computational and Systems Biology Program Director, Gerry Center for Metastasis and Tumor Ecosystems Director, Single Cell Research Initiative Sloan Kettering Institute, Memorial Sloan Kettering Cancer Center

Case 1:15-cv-00152-RGA Document 545-1 Filed 01/28/19 Page 5 of 31 PageID #: 42817

Exhibit B

Case 1:15-cv-00152-RGA Document 545-1 Filed 01/28/19 Page 6 of 31 PageID #: 42818



Greg Gibson, Professor School of Biological Sciences Atlanta, Georgia 30332-0230 USA

January 4, 2019

To Whom It May Concern:

It has come to my attention that BioRad is seeking to prevent 10X Genomics from selling their single cell products. In addition, they have used the instrument which I supervise the usage of, as an example that supports their claim for equivalency of the BioRad ddseq with the 10X Genomics system. That is a claim that I explicitly do not agree with: the two systems are complementary in some respects, but there are critical applications for which the 10X system provides the only option. It follows that if we were to lose the ability to use the 10X instrument the research we support would be severely impacted.

The Center for Integrated Genomics in the School of Biology at Georgia Tech acquired the ddseq system from BioRad in the Summer of 2017. Despite several visits from the BioRad support team while getting the instrument up and running, we were unable to achieve acceptable results for the primary application that we are interested in. This is profiling of primary human blood cells, also known as peripheral blood monocytic cells, or PBMC: the protocol offered by BioRad does not work (and I am not aware of publications showing that it does) and the experiments are too expensive to risk failure. Consequently, in the Fall of 2018 we elected to purchase the 10X Genomics system with feedback and recommendations from colleagues at multiple universities around the world, some of whom had experienced similar frustrations with the ddseq. The 10X system is superior, it is generating superb data from PBMC and is supporting several collaborative efforts studying the genetic basis of autoimmune disease and of cancer immunotherapy. In addition, our colleagues in the Center for Cell Manufacturing at Georgia Tech have switched to the 10X system because it provides much greater throughout, greater consistency and repeatability, and for large projects is far more cost-effective. We retain the BioRad ddseq system for small studies of cell lines, and for pilot research by colleagues with less experience in single cell genomics, but to say it is equivalent is unambiguously false.

To be clear, neither I, nor the institutions with which I am associated, wish to take a position in the legal matter between BioRad and 10X Genomics. However, you should know that I did not give my consent for BioRad to use our name in their filing and would not have given it. I also hope that the extremely detrimental impact of an injunction against 10X Genomics on our research and that of thousands in the genomics community, will be taken into consideration.

Sincerely,

Greg Gibson Professor and Director, Center for Integrative Genomics Co-Director, CHoA Center for Transplantation and Immune Disorders

Case 1:15-cv-00152-RGA Document 545-1 Filed 01/28/19 Page 7 of 31 PageID #: 42819

Exhibit C



UT MD Anderson Cancer Center Department of Translational Molecular Pathology 2130 W. Holcombe Blvd Life Science Plaza, Unit 2951 Houston, TX 77030

Making Cancer History

January 4th, 2019

To Whom It May Concern:

I am a Scientific Manager at The University of Texas MD Anderson. I am writing because I feel that an injunction against 10x Genomics would have a negative impact on my research progress.

The work in my lab focuses on pancreatic cancer. In my laboratory we apply genomics, transcriptomics and systems biology to uncover the underlying dysfunction in cancer. We are performing single cell transcriptomics and copy number variation detection in tissues obtained from fine needle aspirates of pancreatic cancers. The goal of this work is to determine how heterogeneous populations of tumor cells may lead to previously identified molecular subtypes of pancreatic cancer which dictate response to therapy. Additionally, we are performing single cell RNA sequencing of established organoid cultures from human pancreatic cancer, in order to perform in detailed silico pharmacogenomic analysis.

I use 10X's single cell system to perform experiments on large numbers of single cells. Specifically, I used 10X's single cell RNA-seq and single cell DNA products to understand gene dysfunction in cancer. Indeed, we are now in a revolution in which genomes and other "omes" can be readily characterized, and I believe that 10X is leading this revolution for single cell analysis.

While there are other companies such as Bio-Rad provide substitute products for single cell sequencing, none of these other products is a true substitute. The Bio-Rad ddSeq doesn't offer the assortment of assays that 10X offers. But the big difference is in the lack of performance of the Bio-Rad ddSeq. For example, the 10X's system has much higher cell capture rates, higher data quality, and higher sensitivity. This is a difference that makes all the difference for my research. The ddSeq is completely inadequate.

I am informed that BioRad is seeking an injunction that would prevent 10X from selling its products. If I had to switch to a new single cell system, it would do great harm to my research, which I would not be able to effectively carry out on Bio-Rad's or anyone else's products. Finally, in the worst case scenario in which I am forced to use a new product, I would need months to transition my research to a new product.

INTEGRITY

Sincerely,

Paola A. Guerrero Ph.D, M.S. Scientific Manager

CARING

Case 1:15-cv-00152-RGA Document 545-1 Filed 01/28/19 Page 9 of 31 PageID #: 42821

Exhibit D

Case 1:15-cv-00152-RGA Document 545-1 Filed 01/28/19 Page 10 of 31 PageID #: 42822



CANCER AND BLOOD DISORDERS CENTER



Leslie S. Kean, MD, PhD Director, Stem Cell Transplantation Program Dana-Farber/Boston Children's Cancer and Blood Disorders Center 1 Blackfan Circle, Karp Research Building 08215 Boston, Massachusetts 02115 *phone* 617-919-1370 | leslie.kean@childrens.harvard.edu

January 4, 2019

To Whom It May Concern:

I am currently the Director of the Stem Cell Transplantation Program at Boston Children's Hospital/Dana Farber Cancer Institute. I am writing regarding the negative impact that an injunction against 10X Genomics would have on important ongoing research in my labs at both Boston Children's Hospital and Seattle Children's Hospital.

The work in these labs focuses on applying genomics, transcriptomics, and other systems-wide analysis to establish new and effective treatment for pediatric patients. Specifically, we started the PREDICT trial (<u>Pre</u>cision <u>D</u>iagnostics in <u>I</u>nflammatory Bowel Disease, <u>C</u>ellular Therapy and <u>T</u>ransplantation) in late 2017 with the goal of gaining a better understanding of how the immune system drives both inflammatory bowel disease (IBD) in pediatric autoimmunity patients and graft-versus host disease (GVHD) in pediatric bone marrow transplant (BMT) patients. Bone Marrow Transplant is used to treat a wide range of pediatric conditions from leukemia to inherited bone marrow failure syndromes, congenital metabolic disorders and other metabolic diseases.

In order to carry out this research, we use 10X's single cell system to perform experiments on large numbers of single cells from clinical patient cohorts. Specifically, I use 10X's single cell RNA-seq and Single Cell Immune Profiling products (5' TCR immune profiling) to understand why inflammatory bowel disease (IBD) and graft-versus host disease GVHD (the deadliest complication associated with BMT) arise in children. By gaining a foundational molecular diagnostic knowledge about a patient's T cells, we hope to ultimately discover better treatment approaches for both IBD and GVHD. To date we have run 51 patients through our program. For each enrolled patient, we sample 7 different tissues and run both of 10X's 3' and 5' assays for Gene expression and TCR sequencing. The unprecedented scale of 10X's solution, combined with the robust protocols and efficient capture rate of cells is what has enabled this work so far. This work is currently being prepared for publication and will be presented this year at (1) The 2019 Crohn's and Colitis Congress, February 7-9, Las Vegas NV and (2) The Keystone Symposium on Single Cell Biology, January 13-17, Breckenridge CO. Our work would not be possible without 10x Genomics products. 10X Genomics are truly leading a revolution in how science is conducted, and permitting studies like PREDICT to gain unprecedented insight into deadly diseases affecting both children and adults.

I am informed that BioRad is seeking an injunction that would prevent 10X from selling its products, including future reagents and microfluidic chips that would be used with my 10X instruments. If I had to switch to a new single cell system, it would do great harm to my research, which I would not be able to effectively carry out on Bio-Rad's or anyone else's products. 10X's platform is enabling our research program due to its inherent scale, speed and performance. We have already invested >\$1,500,000 in generating data on these first 51

patients. If I were forced to transition to another technology for this work, there is a good chance that this initial investment would be wasted. Finally, in the worst-case scenario in which I am forced to use a new product, I would need at least 12 months to transition my research to that new platform (if a suitable product existed), and would likely have to enroll many additional patients on-study, which would be a significant detriment to the goals of this work, which include rapid dissemination of our results to the patient community.

Please let me know if you have any further questions. I would be happy to discuss the profoundly positive impact that the 10X platform has had on my work.

Sincerely,

heorie S. Kean

Leslie Kean, MD, PhD Professor, Department of Pediatrics, Harvard Medical School Director, Stem Cell Transplantation Program Division of Pediatric Hematology/Oncology, Boston Children's Hospital Department of Pediatric Oncology, Dana-Farber Cancer Institute Case 1:15-cv-00152-RGA Document 545-1 Filed 01/28/19 Page 12 of 31 PageID #: 42824

Exhibit E

January 4th , 2019

Re: Letter in support of continuation of 10X Genomics

To Whom It May Concern:

I am the Professor and Chair of Translational Genomics at the Keck School of Medicine University of Southern California. I am concerned that an injunction against 10x Genomics would cause profound and considerable damage to my current and future research plans.

The core theme of our department and research program is genomics and genome sciences. My research interests focus on cancer genomics, and spans molecular profiling of many tumor types including, but not limited to, prostate cancer, breast cancer, colon cancer, brain cancer, and multiple myeloma, in addition to several forms of pediatric cancer. We have made a number of significant discoveries that have led to new and improved ways of diagnosing and treating cancer.

Indeed, we are now in a revolution in which genomes and other "omes" can be readily characterized, and I believe that 10X is leading this revolution for single cell analysis. I have applied the 10X's single cell system to interrogate the genomes, epigenomes and transcriptomes of tumors to identify targetable events for select therapeutics that might be specific to small populations of cells within a tumor or cancer. The 10X Genomics assays for single cell RNA-seq, single cell DNA, and single cell ATAC products are instrumental to my current and future scientific endeavors. We have several grants including studies of ovarian cancer and endometrial cancer that have been recently funded that proposed and require the use of the 10X Genomics single cell system and assays.

While there are other companies such as Bio-Rad provide similar products for single cell sequencing, none of these other products represent a true substitute for the types of assays that are needed for our work, particularly the DNA sequencing and epigenetic (ATAC-seq) assays. The Bio-Rad ddSeq does not offer either single cell DNA or single cell ATAC. The lack of these products would eliminate some of the experiments that I have worked so hard to acquire funding and precious samples for. With regard to single cell RNA Seq, the 10X Genomics system has much higher cell capture rates, higher data quality, and higher sensitivity, providing more robust experimental designs. In essence, the ddSeq single cell RNA seq assay is inferior to the point that it is unusable for my purposes.

I am informed that BioRad is seeking an injunction that would prevent 10X Genomics from selling its products. If I had to switch to a new single cell system, it would do significant harm to my research and to the work of my research trainees who have invested significant time and effort in this work. And I simply cannot afford to carry out on Bio-Rad's or anyone else's products, mainly because none of these other products can provide the type of data that I need for my funded research studies. Finally, in the worst case scenario in which I am forced to use a new product, I would need months to transition my research to a new product. Therefore, I implore you to not grant any injunction that would prohibit me from purchasing and gaining access to the 10X Genomics system as funding and training is highly relying on the availability of this technology.

Sincerely,

Jøhn D. Carpten, PhD

Professor and Chair Department of Translational Genomics Director, USC Institute for Translational Genomics Director, USC Molecular Genomics Core

University of Southern California Keck School of Medicine 1441 Eastlake Avenue, Los Angeles, CA 90033

Exhibit F

January 4th , 2019

To Whom It May Concern:

I am a Professor at University of California San Francisco Cellular Molecular Pharmacology UCSF School of Medicine. I am writing to document the fact that an injunction against 10x Genomics would have a dramatic negative impact on my research progress.

My laboratory explores how cells ensure that proteins fold into their correct shape, as well as the role of protein misfolding in disease and normal physiology. My group is also widely recognized for building innovative tools for broadly interrogating the organizational principals of biological systems. These include ribosome profiling for globally monitoring protein translation and the development of CRISRPi/a to enable fine-tuned modulating human gene expression at genome scale. More recently, we co-developed Perturb-seq, which pairs CRISPRi/a with advances in droplet-based single cell RNA-seq to enable the systematic exploration of gene function with ultrarich phenotypic readouts. Perturb-seq has become a powerful engine for discovery in my lab, revealing for example how cells use the three branches of the mammalian unfolded protein response (UPR) to monitor and correct distinct types of ER stress. Moving forward, I anticipate that Perturb-seq will be a key tool for elucidating the information encoded within genomes in a principled and unbiased manner. Most recently we have developed a molecular recording technology with single cell read out. This approach was part of a larger set of techniques that were just recognized by Science magazine as being the "breakthrough of the year" for 2018.

The 10x genomic single cell RNA-seq has proven to be an essential and irreplaceable component of the Perturb-seq nad molecular recorder approaches. While there are other companies such as Bio-Rad that provide approaches for single cell sequencing, none of these other products would be even close to being an acceptable substitute for our studies. In particular, the Bio-Rad ddSeq simply doesn't offer the scale of assay required for my experimentation.

I am informed that BioRad is seeking an injunction that would prevent 10X from selling its products. If I had to switch to a new single cell system, it would do great harm to my research, which I would not be able to effectively carry out on Bio-Rad's or anyone else's products.

Sincerely,

Jonathan Weissman

Jonathan Weissman

Case 1:15-cv-00152-RGA Document 545-1 Filed 01/28/19 Page 17 of 31 PageID #: 42829

Exhibit G

Case 1:15-cv-00152-RGA Document 545-1 Filed 01/28/19 Page 18 of 31 PageID #: 42830



December 17, 2018

Jason H. Bielas, Ph.D. Full Member T 206.667.3170 / F 206.667.2537 Mail Stop M5-A864 jbielas@fredhutch.org

To Whom It May Concern,

I am a Full Member in the Translational Research Program (TRP) at Fred Hutchinson Cancer Research Center (Fred Hutch) and hold an Affiliate Associate Professorship in the Department of Pathology at the University of Washington.

The *mission* of my laboratory is to **prevent disease**, **advance treatment**, and **increase patient survival**. To this end, we pursue a broad-based methodological approach to elucidate the fundamental and clinical implications of nuclear and mitochondrial DNA mutations in the pathogenesis of cancer and age-related disease.

The majority of our projects set out to address long-standing intractable questions in mutation research, which have remained unanswered, largely due to technical limitations. We are using the 10X Genomics single cell system, in pursuit of these questions and our overarching laboratory *mission*.

It has come to my attention that Bio-Rad is seeking to prevent 10X from selling their single cell products. If this were to occur, my research, and that of my many collaborators, would be severely impacted as there is no other alternative, with an equivalent technical performance that can be substituted in its place.

In no way am I, nor are the institutions for which I am associated with, taking a position in the matter between Bio-Rad and 10x Genomics. I do hope, however, that the impact of a possible injunction on our research, and thus lives of our patients will be taken into consideration.

Thank you,

Jason Bielas

Case 1:15-cv-00152-RGA Document 545-1 Filed 01/28/19 Page 19 of 31 PageID #: 42831

Exhibit H

Case 1:15-cv-00152-RGA Document 545-1 Filed 01/28/19 Page 20 of 31 PageID #: 42832



December 17, 2018

To Whom It May Concern:

I am currently the Maureen Lyles D'Ambrogio Professor of Medicine and Vice Chair of the Department of Medicine at the Stanford University School of Medicine. I am writing regarding the negative impact that an injunction against 10X Genomics would have on important research in my lab at Stanford.

The work in my lab focuses on applying genomics, transcriptomics, and other systems-wide analysis to analyze stem cell biology and cancer therapeutics. We can grow normal and diseased human tissues in petri dishes as 3-dimensional "organoids". These studies have the potential to generate stem cells that can be transplanted for treatment of diseases such as inflammatory bowel disease or cystic fibrosis. Other investigations in my lab study how the immune system can be used to treat cancer, growing organoids that contain both tumor cells and the cancer-fighting immune cells together as a unit.

To carry out this research, I use the 10X Genomics single cell system to perform experiments on large numbers of single cells. Specifically, I used 10X's single cell RNA-seq and Single Cell Immune Profiling products to analyze thousands of individual cells at a single cell resolution. In one study, published in Nature in 2017, we used the 10X single cell RNA-seq platform to analyze 50 times more individual intestinal stem cells than was previously possible, which indicated strategies by which these stem cells could be more effectively produced (Yan, Janda et al. 2017). In another study, published in Cell Stem Cell in 2017, we used the 10X single cell RNA-seq method to detect differences between intestinal stem cells that are specifically induced to repair the intestine after injury (Yan, Gevaert et al. 2017). Lastly, as published in the journal Cell in 2018, we used the 10X Single Cell Immune Profiling product to demonstrate that organoids from tumor biopsies possess a wide diversity of potentially cancer-fighting immune populations (Neal, Li et al. 2018). These were all collaborative projects in which 10X scientists actively There is absolutely no doubt in my mind that 10x Genomics products have participated. transformed how science is conducted. Previously, single cell transcriptomic analysis has been quite cumbersome, and unable to analyze large numbers of cells. The 10X methods have truly revolutionized single cell analysis and brought it to the masses.

I have learned that Bio-Rad is seeking an injunction that would prevent 10X from selling its products, including future reagents and microfluidic chips that would be used with my 10X instrument. If I had to switch to a new single cell system, it would do great harm to my research,

which I would not be able to effectively carry out on Bio-Rad's or anyone else's products. The Bio-Rad solution appears to be tied to particular sequencing machines which would be a constraint on our studies. Finally, in the worst-case scenario in which I am forced to use a new product, I would need months to transition my research, which would severely compromise our research efforts. Please let me know if I can provide any further information in this regard.

Sincerely,

Cali Ku

Calvin Kuo, M.D., Ph.D. D'Ambrogio Professor of Medicine Vice Chair, Department of Medicine Co-Lead, Cancer Biology Program, Stanford Cancer Center Stanford University Lokey G2034A 265 Campus Drive Stanford, CA 94305 USA cjkuo@stanford.edu Office: 650 498 9047 Fax: 650 721 4125

References

Neal, J. T., X. Li, J. Zhu, V. Giangarra, C. L. Grzeskowiak, J. Ju, I. H. Liu, S. H. Chiou, A. A. Salahudeen, A. R. Smith, B. C. Deutsch, L. Liao, A. J. Zemek, F. Zhao, K. Karlsson, L. M. Schultz, T. J. Metzner, L. D. Nadauld, Y. Y. Tseng, S. Alkhairy, C. Oh, P. Keskula, D. Mendoza-Villanueva, F. M. De La Vega, P. L. Kunz, J. C. Liao, J. T. Leppert, J. B. Sunwoo, C. Sabatti, J. S. Boehm, W. C. Hahn, G. X. Y. Zheng, M. M. Davis and C. J. Kuo (2018). "Organoid Modeling of the Tumor Immune Microenvironment." <u>Cell</u> **175**(7): 1972-1988 e1916.

Yan, K. S., O. Gevaert, G. X. Y. Zheng, B. Anchang, C. S. Probert, K. A. Larkin, P. S. Davies, Z.
F. Cheng, J. S. Kaddis, A. Han, K. Roelf, R. I. Calderon, E. Cynn, X. Hu, K. Mandleywala, J.
Wilhelmy, S. M. Grimes, D. C. Corney, S. C. Boutet, J. M. Terry, P. Belgrader, S. B. Ziraldo, T.
S. Mikkelsen, F. Wang, R. J. von Furstenberg, N. R. Smith, P. Chandrakesan, R. May, M. A. S.
Chrissy, R. Jain, C. A. Cartwright, J. C. Niland, Y. K. Hong, J. Carrington, D. T. Breault, J.
Epstein, C. W. Houchen, J. P. Lynch, M. G. Martin, S. K. Plevritis, C. Curtis, H. P. Ji, L. Li, S. J.
Henning, M. H. Wong and C. J. Kuo (2017). "Intestinal Enteroendocrine Lineage Cells Possess
Homeostatic and Injury-Inducible Stem Cell Activity." <u>Cell Stem Cell 21</u>(1): 78-90 e76.

Yan, K. S., C. Y. Janda, J. Chang, G. X. Y. Zheng, K. A. Larkin, V. C. Luca, L. A. Chia, A. T. Mah, A. Han, J. M. Terry, A. Ootani, K. Roelf, M. Lee, J. Yuan, X. Li, C. R. Bolen, J. Wilhelmy, P. S. Davies, H. Ueno, R. J. von Furstenberg, P. Belgrader, S. B. Ziraldo, H. Ordonez, S. J. Henning, M. H. Wong, M. P. Snyder, I. L. Weissman, A. J. Hsueh, T. S. Mikkelsen, K. C. Garcia and C. J. Kuo (2017). "Non-equivalence of Wnt and R-spondin ligands during Lgr5+ intestinal stem-cell self-renewal." Nature **545**(7653): 238-242.

Case 1:15-cv-00152-RGA Document 545-1 Filed 01/28/19 Page 22 of 31 PageID #: 42834

Exhibit I



December 18, 2018

Xiaole Shirley Liu, Ph.D.

Professor of Biostatistics and Computational Biology Harvard T.H. Chan School of Public Health

Professor of Statistics Faculty of Art and Sciences, Harvard University

Director of Center for Functional Cancer Epigenetics Dana-Farber Cancer Institute

Associate Member Broad Institute of Harvard and MIT

450 Brookline Ave, Mail CLS11007, Boston, Massachusetts 02215 617.632.2472 tel 617.632.2444 fax xsliu@jimmy.harvard.edu, http://liulab.dfci.harvard.edu

To Whom It May Concern:

I am a Professor of Biostatistics at the Harvard School of Public Health and Co-Director of the Center for Functional Cancer Epigenetics at the Dana-Farber Cancer Institute. The CFCE has been at the frontier in epigenetic profiling techniques and analyses. We were among the first to adopt ChIP-seq and ATAC-seq, for developing low-input and FFPE ChIP-seq protocols, and for using it in impactful cancer studies. Recently we have a project, where we observed very interesting phenotype of mouse tumor responding differently to immune checkpoint inhibitors depending on the timing of steroid application. 10X's products have brought paradigm shifts to gene regulation studies, especially in understanding cancer biology and immunology. We are currently using scRNA-seq and scATAC-seq on the 10X genomics platform to investigate the tumor microenvironment changes under diferent steroid application conditions. In addition to this experimental effort, we have also been analyzing many publicly available 10X Genomics scRNA-seq data in cancer and immunology expertise, but also might bring immediate clinical insights to cancer immunotherapy.

It has come to my attention that Bio-Rad is seeking to prevent 10X from selling their single cell products. If this were to occur, my research, and that of my many collaborators, would be severely impacted as there is no other alternative. The 10X's single cell system allows me to analyze cells in manner not available from Bio-Rad or any other company.

To be clear, neither I, nor the institutions for which I am associated with are taking a position in the matter between Bio-Rad and 10x Genomics. However, I hope the impact of an injunction on my research will be taken into consideration.

Sincerely yours,

Xiade &

Xiaole Shirley Liu, Ph.D.

Case 1:15-cv-00152-RGA Document 545-1 Filed 01/28/19 Page 24 of 31 PageID #: 42836

Exhibit J

Case 1:15-cv-00152-RGA Document 545-1 Filed 01/28/19 Page 25 of 31 PageID #: 42837



STANFORD UNIVERSITY SCHOOL OF MEDICINE

Hanlee P. Ji, M.D. Associate Professor Division of Oncology Department of Medicine CCSR 1115 Stanford, California 94305-5151 Phone (650) 721-1503 Fax (650) 725-1420

December 19, 2018

To whom it may concern:

I am an Associate Professor at Stanford University and lead a biomedical research team that investigates the cause of cancer and discovers new treatments for treating cancer patients. I am writing this letter in regard to a potential halt of sales of the 10X Genomics product for single cell and linked read analysis.

Using the 10X Genomics products, we are conducting multiple studies that are leading to new discoveries about cancer and providing us with candidate for new types of treatments for patients with this disease. The key advantage of these reagents is their high performance when using clinical samples from patients. These reagents are very complex in composition and undergo extensive quality control that insures that our scientific results are of the highest level of quality and accurate. Our attempts to generate these reagents on our own would be extraordinarily costly and slow down if not halt our research in helping cancer patients.

Importantly, many of the 10X Genomic reagents are unique, seeing that there are no practical alternatives, commercial or otherwise, that would enable us to continue our research in discovering and improving new cancer therapies. Furthermore, a halt in sales of these unique reagents would have a major impact on biomedical research – it would practically stop many promising avenues of research leading to improving the treatment of a wide variety of diseases. Many research groups at Stanford and elsewhere rely on these unique reagents to investigate the cause and treatment of various disease. Without them, much of this work will stop and it will be difficult to move forward.

Sincerely,

Hanlee Ji, M.D.

Case 1:15-cv-00152-RGA Document 545-1 Filed 01/28/19 Page 26 of 31 PageID #: 42838

Exhibit K

Case 1:15-cv-00152-RGA Document 545-1 Filed 01/28/19 Page 27 of 31 PageID #: 42839



STANFORD UNIVERSITY SCHOOL OF MEDICINE DEPARTMENT OF GENETICS

Michael Snyder, Ph.D. Stanford B. Ascherman Professor and Chair Director, Center for Genomics and Personalized Medicine

Phone: (650) 736-8099 Fax: (650) 725-1534

December 19, 2018

To Whom It May Concern:

I am the Stanford B. Ascherman Professor and Chair of Genetics and Director of Genomics and Personalized Medicine at Stanford University School of Medicine. I am writing because I feel that an injunction against 10x Genomics would have a negative impact on my research progress.

In my laboratory we apply genomics, transcriptomics and systems biology to uncover the underlying dysfunction in human disease. For example, we will map open chromatin regions in single cells from both diseased and normal human tissues. These studies will greatly expand the catalog of regulatory regions in the human genome.

I use 10X's single cell system to perform experiments on large numbers of single cells. Specifically, I used 10X's single cell RNA-seq and ATAC-seq products to understand how genes are regulated with single cell resolution. These experiments are used to understand how genetic variations among humans affect health. This platform is essential for our \$13M NIH-sponsored PreCancer Atlas grant as well as other projects. Indeed, we are now in a revolution in which genomes and other "omes" can be readily characterized, and I believe that 10X is leading this revolution for single cell analysis.

While there are other companies such as Bio-Rad that provide commercial products for single cell sequencing, none of these other products can replace 10X. In developing my research plan and experimental protocols, I considered the pros and cons of a number of different single cell products, including 10X's Chromium system and BioRad's ddSEQ system. Each system gives different data and has different capabilities. I ultimately chose to use 10X's system because of its high cell capture rates, high data quality, high sensitivity, and low cost per cell.

I am informed that BioRad is seeking an injunction that would prevent 10X from selling its products. If I had to switch to a new single cell system, it would do great harm to my research, which I would not be able to effectively carry out on Bio-Rad's or anyone else's products. Furthermore, in the worst case scenario in which I am forced to use a new product, I would need months to transition my research to a new product. Thus, it is essential for our research and for efficient use of taxpayers funds to continue to use 10X system.

Sincerely,

g/h

Michael Snyder, Ph.D. Stanford B. Ascherman Professor and Chair, Department of Genetics Director, Stanford Center for Genomics and Personalized Medicine School of Medicine, Stanford University

Case 1:15-cv-00152-RGA Document 545-1 Filed 01/28/19 Page 28 of 31 PageID #: 42840

Exhibit L

Case 1:15-cv-00152-RGA Document 545-1 Filed 01/28/19 Page 29 of 31 PageID #: 42841



Robert P. Sebra, PhD Associate Professor Director of Technology Development Genetics and Genomic Sciences Icahn Institute for Data Science and Genomic Technology Icahn School of Medicine at Mount Sinai 1425 Madison AvenueB—ox 1498 New York, NY 10029 C 415-710-9061 Robert.sebra@mssm.edu

January 3, 2019

To Whom It May Concern:

I am currently Associate Professor at the Icahn School of Medicine at Mount Sinai and Director of Technology Development and the Genomics Core Facility for the Icahn Institute for Data Science and Genomic Technology. I am writing regarding the negative impact that an injunction against 10X Genomics would have on important research in my lab at ISMMS.

The work in my lab focuses on applying novel genomics, transcriptomics, and other systemswide approaches to better understand genomic variation for developing higher resolution human disease diagnostics in cancer and inherited disease as well as in infectious disease surveillance.

In order to carry out this research, I use 10X's single cell system to perform experiments on large numbers of single cells. Specifically, I used 10X's single cell RNA-seq and Single Cell Immune Profiling products to understand, among other things, tumor heterogeneity in a variety of different cancer types and embryonic development at a single cell resolution. 10X Genomics products are leading a revolution in how science is conducted.

I am informed that BioRad is seeking an injunction that would prevent 10X from selling its products, including future reagents and microfluidic chips that would be used with my 10X instrument. If I had to switch to a new single cell system, it would do great harm to my research, which I would not be able to effectively carry out on Bio-Rad's or anyone else's products. Finally, in the worst-case scenario in which I am forced to use a new product, I would need months to transition my research to a new product.

Sincerely,

Robert P. Sebra, PhD Associate Professor Director of Technology Development Director of Genomics Core Facility Dept. of Genetics and Genomic Sciences, Icahn School of Medicine at Mount Sinai Icahn Institute for Data Science and Genomic Technology VP of Technology Development, Sema4 – A Mount Sinai Venture

Case 1:15-cv-00152-RGA Document 545-1 Filed 01/28/19 Page 30 of 31 PageID #: 42842

Exhibit M

Case 1:15-cv-00152-RGA Document 545-1 Filed 01/28/19 Page 31 of 31 PageID #: 42843 UNIVERSITY OF CALIFORNIA, LOS ANGELES UCLA

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTA CRUZ

UCLA Division of Cardiology Room A2-237 CHS 650 Charles E. Young Drive South Box 951679 LOS ANGELES, CALIFORNIA 90095-1679

December 14, 2018

To Whom It May Concern,

I am Aldons Lusis, Professor of Human Genetics and Medicine at the University of California, Los Angeles. Our laboratory studies the genetic basis of cardiovascular and metabolic diseases in human populations and in experimental models.

I understand that there are some legal issues that may disrupt our access to the 10X Single Cell technologies. At present, these technologies are central to our work and any disruption in access to them would greatly affect our research efforts. Although I have not used the Bio-Rad or other Single Cell Sequencing products, my colleagues at UCLA and others have investigated various approaches and find 10X to be the most powerful and useful for our needs.

Sincerely,

Aldons J. Lusis, Ph.D. Professor Department of Microbiology, Immunology and Molecular Genetics Department of Medicine Department of Human Genetics