

News Release

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MilliporeSigma and 10x Genomics Launch Powerful New Option for CRISPR Research

- **First solution for simultaneous gene perturbation measurement and unbiased single-cell gene expression**
- **Provides researchers with more detailed information to better understand the relationship between specific genes and disease**
- **New offering accelerates drug discovery in many areas of human disease**

Burlington, Massachusetts, June 10, 2020 – [MilliporeSigma](#), a leader in genome editing, and [10x Genomics, Inc.](#) (Nasdaq: TXG), a single cell and spatial genomics technologies company, today announced that they have developed a powerful new option for biological experiments.

“Researchers today require more detailed information to better understand the relationship between specific genes and disease,” said Andrew Bulpin, head of Process Solutions at MilliporeSigma. “Our genome-editing technology combined with 10x Genomics’ Feature Barcode technology will allow researchers to screen single cells using CRISPR libraries. These insights can lead to the identification of novel molecular therapeutic targets and accelerate drug discovery in immuno-oncology, autoimmunity, neurodegeneration and other human diseases.”

The collaboration provides an impactful linking of two innovative technologies: single cell transcriptomics and pooled CRISPR screening. The first commercially offered, ready-to-use tool enables simultaneous measurement of gene perturbation and unbiased gene expression from single cells. MilliporeSigma is the only company



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that provides fully tested and validated reagents and workflows to run single-cell screening on 10x Genomics' platform.

The companies will work together as part of 10x Genomics' [10x Compatible Partnership Program](#), a global ecosystem of technologies and solutions that provide customers with the ability to enhance their unique research applications and accelerate discovery. This program has established a broad coalition of technology platforms that together span all aspects of the next-generation sequencing workflow, from sample prep to informatics. The two companies' combined technologies developed under the 10x Compatible Product Partnership Program are expected to deliver a greater potential for enabling scientific discovery.

"CRISPR-based screening allows researchers to isolate a set of genes and identify their potential as targets for a therapeutic. But, if these experiments are done in bulk, the phenotypes are difficult, or impossible, to resolve," said Michael Schnall-Levin, senior vice president of R&D and founding scientist at 10x Genomics. "When combined with single cell transcriptomics, each phenotype can be isolated and fully profiled using its gene expression patterns, creating a dynamic view of the genes driving the phenotype and morphology to better understand the underlying biology."

MilliporeSigma's 16 years of experience in the genome-editing field has led to the most comprehensive portfolio of CRISPR and other advanced genomics technologies which support every step of genome engineering-facilitated research, from basic research to therapeutic delivery. The company uses this expertise to offer products and services for a range of applications including gene knockout, targeted integration and mutagenesis and genetic screening libraries to support research in immunotherapeutics, oncology and infectious disease, among other fields. Its scientists are committed to developing powerful, unique technologies that expand these applications and accelerate health-related research.

MilliporeSigma recognizes that genome editing has resulted in major advancements in biological research and medicine. At the same time, the growing potential of genome-editing technologies has opened scientific, legal and societal concerns. The company supports research with genome editing under careful consideration of ethical and legal standards. MilliporeSigma's parent company, Merck KGaA,

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Darmstadt, Germany, has established an independent, external [Bioethics Advisory Panel](#) to provide guidance for research in which its businesses are involved, including research on or using genome editing and has developed, defined and transparently published a clear operational [Genome-Editing Technology Principle](#) taking into account scientific and societal issues to inform promising therapeutic approaches for use in research applications.

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About 10x Genomics

10x Genomics is a life science technology company building products to interrogate, understand and master biology to advance human health. The company's integrated solutions include instruments, consumables and software for analyzing biological systems at a resolution and scale that matches the complexity of biology. 10x Genomics products have been adopted by researchers around the world including 97 of the top 100 global research institutions and 19 of the top 20 global pharmaceutical companies, and have been cited in over 870 research papers on discoveries ranging from oncology to immunology and neuroscience. The company's patent portfolio comprises more than 740 issued patents and patent applications.

About the Life Science business of Merck KGaA, Darmstadt, Germany

The Life Science business of Merck KGaA, Darmstadt, Germany, which operates as MilliporeSigma in the U.S. and Canada, has some 22,000 employees and 59 manufacturing sites worldwide, with a portfolio of more than 300,000 products focused on scientific discovery, biomanufacturing and testing services. Udit Batra is the global chief executive officer of MilliporeSigma.

Merck KGaA, Darmstadt, Germany completed its \$17 billion acquisition of [Sigma-Aldrich](#) in November 2015, creating a leader in the \$125 billion global life science industry.

Merck KGaA, Darmstadt, Germany, a leading science and technology company, operates across healthcare, life science and performance materials. Around 57,000 employees work to make a positive difference to millions of people's lives every day by creating more joyful and sustainable ways to live. From advancing gene-editing technologies and discovering unique ways to treat the most challenging diseases to enabling the intelligence of devices – the company is everywhere. In 2019, Merck KGaA, Darmstadt, Germany generated sales of €16.2 billion in 66 countries.

The company holds the global rights to the name and trademark "Merck" internationally. The only exceptions are the United States and Canada, where the business sectors of Merck KGaA, Darmstadt, Germany operate as EMD Serono in healthcare, MilliporeSigma in life science, and EMD Performance Materials. Since its founding 1668, scientific exploration and responsible entrepreneurship have been key to the company's technological and scientific advances. To this day, the founding family remains the majority owner of the publicly listed company. For more information about Merck, KGaA, Darmstadt, Germany, visit www.emdgroup.com.