Vertex and Genomics plc Establish Collaboration to Use Human Genetics and Data Science to Advance Discovery of Precision Medicines

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Multi-year collaboration combines expertise in genomics, machine learning and drug discovery to identify novel targets for innovative medicines

BOSTON & OXFORD, United Kingdom--(BUSINESS WIRE)--Aug. 30, 2018-- Vertex Pharmaceuticals Incorporated (Nasdaq: VRTX) and Genomics plc today announced a three-year collaboration, extendable to five years, to use human genetics and machine learning to improve discovery of targets for precision medicines, and to advance understanding of the clinical impact of human genetic variation and patient stratification in diseases with significant unmet need. The goal of the collaboration is to further advance Vertex's efforts to develop transformative precision medicines for people with serious diseases.

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Genomics has developed a unique analysis engine, which uses genetics to understand human biology and the likely efficacy and safety of potential novel medicines. The Genomics engine is the largest of its kind in the world, with over 100 billion data points. It links human genetic variation at over 14 million positions in the human genome to changes in 7,000 molecular, cellular, and physiological measurements and disease outcomes. The company uses proprietary machine learning and statistical algorithms to predict the impact of therapeutic interventions.

"Human biology and genetics are a foundation of drug discovery at Vertex and the team at Genomics brings together a unique combination of sophisticated data science and human genetics," said Dr. David Altshuler, Executive Vice President Global Research, and Chief Scientific Officer, Vertex. "This partnership will pioneer new uses of genomic tools and technologies to advance Vertex's ongoing work and investment at our Oxford Research Site and globally to bring new medicines to the patients that need them."

"Human genetics has already been shown to have a substantial impact on the success of novel drug targets. Our next generation of data and algorithms promises to be transformative, not just for target discovery but in biomarker selection and patient stratification," said Professor Peter Donnelly FRS, Founder and Chief Executive Officer, Genomics plc. "We are delighted to be partnering with one of the most innovative and successful companies in the global biotech sector to help realise that promise to benefit patients and their families."

Scientists from Vertex and Genomics will work closely together to incorporate their deep understanding of human genetics into research and development related to target discovery and target validation in certain diseases. Both companies will also have the opportunity to suggest additional diseases for the collaboration, where human genetic evidence may be particularly powerful.

In addition to funding the resources committed by Genomics to the collaboration, Vertex will make milestone and royalty payments to the company for novel targets resulting from the collaboration that are taken through clinical development. Dr. Altshuler will also join the Genomics plc Board of Directors.

Additionally, Vertex has made a £10.5 million equity investment in Genomics plc as part of its £25 million Series B funding round also announced today.

About Vertex

Vertex is a global biotechnology company that invests in scientific innovation to create transformative medicines for people with serious and life-threatening diseases. In addition to clinical development programs in cystic fibrosis, Vertex has more than a dozen ongoing research programs focused on the underlying mechanisms of other serious diseases.

Founded in 1989 in Cambridge, Mass., Vertex's headquarters is now located in Boston'sInnovation District. Today, the company has research and development sites and commercial offices in the United States, Europe, Canada and Australia. Vertex is consistently recognized as one of the industry's top places to work, including being named to *Science* magazine's Top Employers in the life sciences ranking for eight years in a row.

For additional information and the latest updates from the company, please visit www.vrtx.com.

About Genomics plc

Genomics plc is a leading genome analysis company formed in 2014 by four leading scientists at the University of Oxford, including Professors Peter Donnelly (then Director of the Wellcome Centre for Human Genetics) and Gil McVean (Director of Oxford's Big Data Institute). Its vision is to use genomic insights to transform the drug discovery industry by getting better drugs developed more quickly and targeted at the right group of patients.

Every individual carries a unique set of genetic variants. Many of these variants change aspects of our biology. The powerful idea which underpins the company's work is that to understand the consequences of a proposed drug one can look at individuals who happen to carry genetic variants which affect the same part of our biology as the drug. This human genetics approach allows Genomics to learn about human biology, directly, in humans, rather than having to rely on the model systems which lead to 90% of drug targets failing when they are tested in humans.

Genomics plc has developed the largest platform of its kind in the world linking genetic variants to changes in thousands of measurements and disease outcomes, together with breakthrough machine learning algorithms that use this data at scale to learn directly about human biology.

Backed by some of the leading investors in life sciences, Genomics has an expert cross-disciplinary team of over 40 people, primarily scientists and software engineers, with offices in Oxford and Cambridge UK.

For additional information about Genomics plc, please visit www.genomicsplc.com.

Special Note Regarding Forward-looking Statements

This press release contains forward-looking statements as defined in the Private Securities Litigation Reform Act of 1995, including, without limitation, Dr. Altshuler's statements in the second paragraph of the press release and Mr. Donnelly's statements in the third paragraph of the press release. While Vertex believes the forward-looking statements contained in this press release are accurate, these forward-looking statements represent the company's beliefs only as of the date of this press release and there are a number of factors that could cause actual events or results to differ materially from those indicated by such forward-looking statements. Those risks and uncertainties include, among other things, the risks listed under Risk Factors in Vertex's annual report and quarterly reports filed with the Securities and Exchange Commission and available through the company's website at www.vrtx.com. Vertex disclaims any obligation to update the information contained in this press release as new information becomes available.

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Source: Vertex Pharmaceuticals Incorporated

Vertex:
Investors:
Michael Partridge, +1 617-341-6108
or
Eric Rojas, +1 617-961-7205
or
Zach Barber, +1 617-341-6470
or
Media:
Heather Nichols, +1 617-341-6992
mediainfo@vrtx.com
or
Genomics plc:
FTI Consulting
Ben Atwell and Andrew Ward, +44 (0)20 3720 1000
scgenomicsplc@fticonsulting.com