University of Paris Researchers Utilize Fluidigm Mass Cytometry and Maxpar Direct Immune Profiling Assay to Identify Distinct Phenotype among Patients with Severe COVID-19

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Study Suggests That Type I IFN Deficiency in the Blood Could Help Define a High-Risk Population

SOUTH SAN FRANCISCO, Calif., May 19, 2020 (GLOBE NEWSWIRE) -- Fluidigm Corporation (Nasdaq:FLDM), an innovative biotechnology tools provider with a vision to improve life through comprehensive health insight, today announced that researchers at the University of Paris have utilized mass cytometry to identify profound changes in the immune systems of critically ill COVID-19 patients. The findings may help define a population of COVID-19 patients at high risk for becoming critically ill, and they suggest a possible benefit from anti-inflammatory therapies.

The study, available online through *medRxiv* and pending peer review, utilized the Fluidigm® Maxpar® Direct™ Immune Profiling Assay™ and Maxpar Pathsetter™ analysis software. The assay offers a fixed panel of 30 standard markers of immune activity, to which the researchers added two exploratory markers. Analyses of multiple markers revealed changes in the populations of different types of immune cells, and most important, to their antiviral response in 50 patients with varying disease severity.

“The immunological features and molecular mechanisms involved in COVID-19 are as yet not well-understood, and we urgently need a deeper understanding across the different stages of the disease,” said Dr. Benjamin Terrier, MD, PhD, Department of Internal Medicine, National Referral Center for Rare Systemic Autoimmune Diseases, Public Assistance Hospitals of Paris-Center, University of Paris. “A means to identify groups at high risk for severe COVID-19 could provide valuable insights into effective approaches to treatment.”

All patients were tested 8 to 12 days following the onset of symptoms and in the absence of anti-inflammatory therapy. In-depth profiling of immune cell populations and their respective functions using mass cytometry, gene expression studies and evaluation of the levels of proteins secreted by the cells found that profound impairment of type I interferon (IFN) activity was unique to critically ill patients. This suggests that type I IFN deficiency is a hallmark of severe COVID-19 and that these patients could benefit from anti-inflammatory therapies targeting IL-6 or TNF-a inflammatory cytokines.

“A rapidly emerging body of data demonstrates the value of mass cytometry and our Maxpar Direct Immune Profiling Assay in studies that provide critical and potentially actionable insights for approaches to COVID-19 therapy,” said Chris Linthwaite, President and CEO of Fluidigm. “Accurate and meaningful assessments of diverse biomarkers that have diagnostic, prognostic or therapeutic value are essential in addressing the unique and urgent challenges of this global health crisis.

“Speed is equally critical,” Linthwaite said. “The team at University of Paris, using our standardized, pre-designed and optimized kit, was able to go from experiment conception to pre-print publication in 25 days. We are committed to supporting researchers around the globe with tools and technologies to effectively respond to the global pandemic, both in state-of-the-art immune profiling of patients and in virus detection in populations.”

The online archive *medRxiv* was founded by Cold Spring Harbor Laboratory, a not-for-profit research and educational institution, Yale University, and BMJ, a global health care knowledge provider. It provides a platform for researchers to share their work and comment and receive feedback on it prior to journal publication.

About Fluidigm

Fluidigm (Nasdaq:FLDM) focuses on the most pressing needs in translational and clinical research, including cancer, immunology, and immunotherapy. Using proprietary CyTOF® and microfluidics technologies, we develop, manufacture, and market multi-omic solutions to drive meaningful insights in health and disease, identify biomarkers to inform decisions, and accelerate the development of more effective therapies. Our customers are leading academic, government, pharmaceutical, biotechnology, and plant and animal research laboratories worldwide. Together with them, we strive to increase the quality of life for all. For more information, visit fluidigm.com.

Forward-Looking Statements for Fluidigm

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, including, among others, statements regarding the potential value of and demand for Fluidigm’s mass cytometry technology and products for COVID-19-related applications. Forward-looking statements are subject to numerous risks and uncertainties that could cause actual results to differ materially from currently anticipated results, including but not limited to risks relating to the potential adverse effects of the coronavirus pandemic on our business and operating results during 2020; challenges inherent in developing, manufacturing, launching, marketing, and selling new products; risks relating to company research and development and distribution plans and capabilities; interruptions or delays in the supply of components or materials for, or manufacturing of, Fluidigm products; potential product performance and quality issues; intellectual property risks; and competition. Information on these and additional risks and uncertainties and other information affecting Fluidigm business and operating results is contained in Fluidigm’s Annual Report on Form 10-K for the year ended December 31, 2019, and in its other filings with the Securities and Exchange Commission. These forward-looking statements speak only as of the date hereof. Fluidigm disclaims any obligation to update these forward-looking statements except as may be required by law.

Available Information

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(facebook.com/Fluidigm), and LinkedIn page (linkedin.com/company/fluidigm-corporation) as channels of distribution of information about our products, our planned financial and other announcements, our attendance at upcoming investor and industry conferences, and other matters. Such information may be deemed material information, and we may use these channels to comply with our disclosure obligations under Regulation FD. Therefore, investors should monitor our website and our social media accounts in addition to following our press releases, SEC filings, public conference calls, and webcasts.

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