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News Release

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Bayer and Kyoto University form research alliance to discover new treatment approaches against lung diseases

Berlin, January 31, 2019 – Bayer and Kyoto University have agreed on a strategic research alliance to jointly identify new drug targets for the treatment of pulmonary diseases such as idiopathic pulmonary fibrosis.

Idiopathic pulmonary fibrosis (IPF) is a life-threatening chronic disease in which, over time, tissue of the lungs becomes more and more thick and stiff, leading to a progressive loss of lung function. Although research has identified key factors in the development of pulmonary fibrosis, no direct cause leading to this disease is known. The goal of the research alliance is to identify specific targets and pathways that are causing the disease and to discover new treatments to modulate these pathways and prevent further lung function decline.

“In line with our strategy to complement in-house research through external innovation approaches, we are collaborating with Kyoto University in the area of pulmonology to identify new treatment options for patients suffering from lung diseases”, said Dr. Joerg Moeller, Member of the Executive Committee of Bayer AG's Pharmaceuticals Division and Head of Research and Development. “Idiopathic pulmonary fibrosis is a disease with a high unmet medical need and we hope that the collaboration with Kyoto University will lead to the identification of new drug targets that make significant differences to patients.”

The collaboration will build on discoveries and expertise developed by Dr. Atsuyasu Sato at the Department of Respiratory Medicine at Graduate School of Medicine and Faculty of Medicine at Kyoto University, especially with regard to the role of epithelial cells in the pathogenesis of IPF, combining it with Bayer's expertise in drug discovery and development. Both partners will contribute personnel, infrastructure and unique technologies to further explore common hypotheses allowing identification of new treatment options.

Under the agreement, Bayer and Kyoto University will jointly conduct research activities to identify new drug targets. Bayer will have an option for the exclusive use of the collaboration results. Financial terms of the agreement were not disclosed.

“We are committed to discover novel therapeutics for lung diseases through our innovative approaches established in the respiratory medicine and thoracic surgery departments”, said Professor Dr. Toyohiro Hirai, Head of the Department of Respiratory Medicine at Graduate School of Medicine and Faculty of Medicine at Kyoto University. “We are very excited to work on multiple projects with Bayer jointly and closely. Combining our expertise, we will deepen our understanding of intractable lung diseases including IPF to search for new treatments.”

The new research alliance in pulmonology was established with the support of Kyoto University Medical Business Liaison Organization (KUMBL) and follows on a previous, broad range research agreement with Kyoto University’s Office of Society-Academia Collaboration for Innovation (KU-SACI) that was signed in 2014 to explore potential joint research projects.

About Idiopathic Pulmonary Fibrosis

Idiopathic pulmonary fibrosis (IPF) is a chronic lung disease affecting approximately 5 million people globally. Scarring of lung tissue occurs over time, leading to a progressive loss of lung function. The formation of scar tissue is called fibrosis. As the lung tissue thickens, gas exchange from the lungs to the blood stream decreases over time. As a result, the brain and other organs are undersupplied with oxygen. Although research has identified key factors in the development of pulmonary fibrosis, no direct cause leading to this disease is known. This is why the disease is called “idiopathic” pulmonary fibrosis. Acute IPF exacerbations are defined as a rapid worsening of symptoms within days or weeks and reducing the risk of acute exacerbations is a key treatment goal in the management of all patients with IPF.

About Kyoto University

Kyoto University was founded in 1897 as the second oldest imperial university in Japan. Since that time, Kyoto University has remained faithful to its principle of “academic freedom” and has focused its efforts in developing a strong sense of purpose reflected in its mission statement: “To sustain and develop its historical commitment to academic

freedom and pursue a state of harmonious coexistence within the human and ecological community on this planet.” Recognized as one of Japan’s foremost research institutions, the achievements of Kyoto University’s scholars are acknowledged throughout the world. A prominent recent example was the awards of the 2012 and 2018 Nobel Prize in Physiology or Medicine to Dr. Shinya Yamanaka of the Center for iPS Cell Research and Application for his unique discoveries in the field of stem cell research and to Dr. Tasuku Honjo of Professor at Department of Immunology and Genomic Medicine for his discovery of the PD-L1-targeted cancer immunotherapy.

Kyoto University’s website: <http://www.kyoto-u.ac.jp/en/>

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