

Press Release

Doshisha University, Wakayama Medical University and Astellas announce Respective Joint Researches to Maximize Drug Value using AI and Statistics

- Aiming to optimize decision-making in the drug development process and individual medications for patients -

TOKYO, March 26, 2021 - Astellas Pharma Inc. (TSE: 4503, President and CEO: Kenji Yasukawa, Ph.D., “Astellas”) has entered into two joint research agreements today to maximize the value of medications using AI and statistical methods. One agreement is with the Laboratory of Statistical Science, Faculty of Culture and Information Science, Doshisha University (President; Tomoko Ueki, “Doshisha University”), and the other is the Department of Medical Data Science, Graduate School of Medicine, Wakayama Medical University (President; Kazuhisa Miyashita, “Wakayama Medical University”).

Both of the endeavors aim to optimize decision-making in drug development and increase therapeutic effects by utilizing statistical models and simulation techniques leveraging big data.

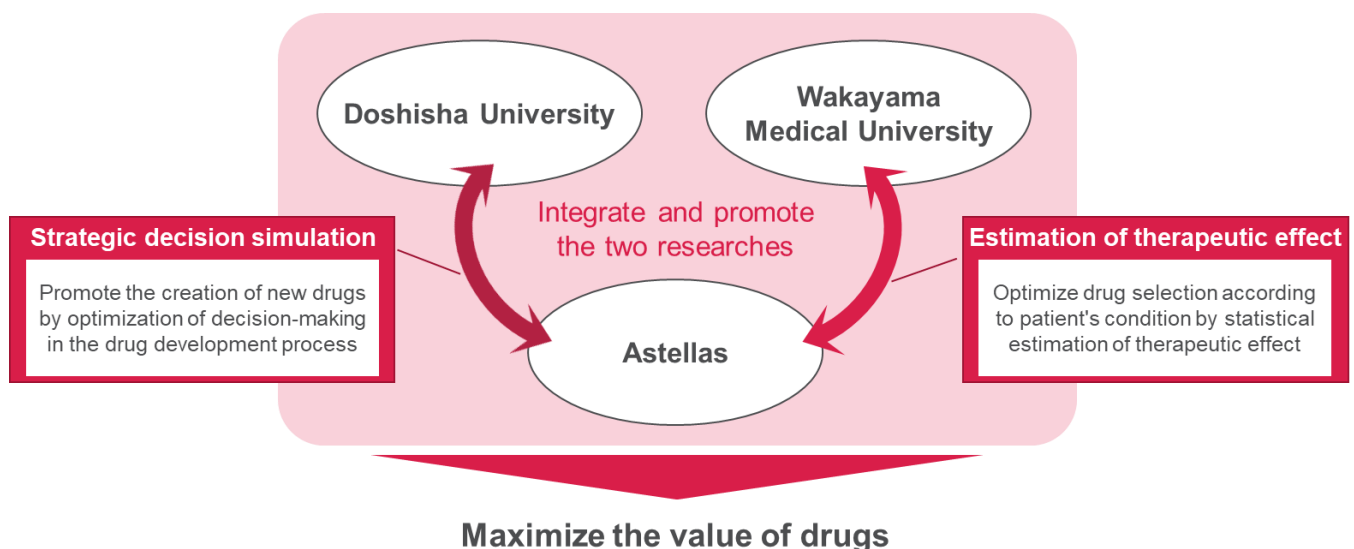


Figure: Schematic diagram of joint researches on the utilization of AI and statistics

The outline of the joint researches are as follows.

■ Doshisha University and Astellas: Statistical modeling for decision making

In R&D, there are many critical decisions regarding target disease, clinical trial design, and other aspects. Therefore, we aim to optimize the timing of decision-making in drug development and hope to accelerate accurate decision-making using data-based statistical models and simulation techniques.

■ Wakayama Medical University and Astellas: Statistical estimation of therapeutic effect

Estimating treatment effects based on a patient's characteristics will enable the selection of appropriate medicines for each patient, eventually leading to the optimization of treatment effects and a reduction in healthcare costs. We aim to optimize the treatment process for each patient by estimating treatment effects with statistical models using real-world data.

By mutually utilizing the simulation results and know-how obtained from the two joint researches, synergies such as enabling decision-making based on more accurate estimation are expected.

In recent years, with the innovation of analytical and information techniques, the amount of data and information related to medicine and life sciences increased significantly and created new opportunities to add value. Astellas will collaborate to maximize the value of pharmaceuticals by integrating the two approaches.

About Laboratory of Statistical Science, Faculty of Culture and Information Science, Doshisha University

In the Statistical Science Laboratory, Faculty of Culture and Information Studies, Doshisha University, we are engaged in practical and theoretical research in statistical science. In practical research, we analyze data from a wide range of fields, focusing on stock price data, marketing data, sports data, and location data. We are also conducting joint research with various companies and local governments. In theoretical research, we are mainly engaged in mathematical characterization and development of new methods for multivariate analysis and statistical inference.

About Department of Medical Data Science, Graduate School of Medicine, Wakayama Medical University

The Department of Medical Data Science, Graduate School of Medicine, Wakayama Medical University, researches statistical machine learning and its applications to medicine. We are developing innovative statistical methods based on nonlinear regression and ensemble approaches to realize personalized (precision) medicine. Furthermore, as professional data scientists, we are in charge of analyzing data from domestic and international epidemiological studies.

About Astellas

Astellas Pharma Inc. is a pharmaceutical company conducting business in more than 70 countries around the world. We are promoting the Focus Area Approach that is designed to identify opportunities for the continuous creation of new drugs to address diseases with high unmet medical needs by focusing on Biology and Modality. Furthermore, we are also looking beyond our foundational Rx focus to create Rx+[®] healthcare solutions that combine our expertise and knowledge with cutting-edge technology in different fields of external partners. Through these efforts, Astellas stands on the forefront of healthcare change to turn innovative science into value for patients. For more information, please visit our website at <https://www.astellas.com/en>.

Cautionary Notes

In this press release, statements made with respect to current plans, estimates, strategies and beliefs and other statements that are not historical facts are forward-looking statements about the future performance of Astellas. These statements are based on management's current assumptions and beliefs in light of the information currently available to it and involve known and unknown risks and uncertainties. A number of factors could cause actual results to differ materially from those discussed in the forward-looking statements. Such factors include, but are not limited to: (i) changes in general economic conditions and in laws and regulations, relating to pharmaceutical markets, (ii) currency exchange rate fluctuations, (iii) delays in new product launches, (iv) the inability of Astellas to market existing and new products effectively, (v) the inability of Astellas to continue to effectively research and develop products accepted by customers in highly competitive markets, and (vi) infringements of Astellas' intellectual property rights by third parties.

Information about pharmaceutical products (including products currently in development) which is included in this press release is not intended to constitute an advertisement or medical advice.

###

Contacts for inquiries or additional information:

Doshisha University

Public Relations Division

TEL: 075-251-3120 FAX: 075-251-3080 E-mail: ji-koho@mail.doshisha.ac.jp

Wakayama Medical University

Medical Data Science

TEL: 073-441-0867 FAX: 073-441-0868

Astellas Pharma Inc.

Corporate Advocacy & Relations

TEL: +81-3-3244-3201 FAX: +81-3-5201-7473