May 17, 2023
Kyoto University
Chordia Therapeutics, Inc.
Fujitsu Limited

Fujitsu, Kyoto University, and Chordia Therapeutics launch AI trials to discover biomarkers for new cancer drugs

Tokyo, Kanagawa, and Kyoto, May 17, 2023 – Fujitsu Limited, Kyoto University (1), Chordia Therapeutics, Inc. (2), today announced the beginning of field trials leveraging Fujitsu's AI causal discovery technology to shed light on biomarkers (3) that increase the probability of success or shorten the duration of clinical trials in the development of new cancer drugs.

Using results obtained from Kyoto University's next-generation sequencer (4) platform for analyzing genomic information and Fujitsu's causal discovery technology on its "Fujitsu Kozuchi (code name) - Fujitsu AI Platform" where advanced AI technologies can be rapidly tested, this project will comprehensively investigate causal structures and the conditions under which these structures occur in the drug effect and the estimated 20,000 genes that compose the human genome. This information will assist researchers working to discover biomarkers for patient stratification that can be used to determine the efficacy of cancer treatments that target RNA regulatory stress (5), under development by Kyoto University and Chordia since May 2018.

Through this demonstration, Fujitsu, Kyoto University, and Chordia Therapeutics aim to realize new cancer treatments personalized to individual patients' genetic characteristics, cancer symptoms and progression, ultimately improving patient outcomes and well-being.

Background

A variety of biomarkers are currently used in the medical field for preventative care, diagnosis, and treatment selection of cancer. In clinical trials, biomarkers make it possible for drug development researchers to focus on specific characteristics, improving the likelihood of developing successful and effective new drug candidates.

About the field trials

1. Duration:

May 17, 2023 to April 30, 2024

2. Overview:

Fujitsu's causal discovery technology will be used in the trials to identify causal structures between genes in over 1,000 conditions that may be related to treatment efficacy or resistance from data obtained by analyzing the human genome.

By incorporating an analysis platform for identifying the entire causal structure and locating promising areas of research from this data using Fujitsu's causal discovery technology, the project partners aim to realize a new technique that allows researchers to grasp the entire causal structure in one day, a task which would take experts over six months using conventional techniques.

Through the field trials using biomarker candidates that have been identified using this causal discovery technology, researchers will evaluate the effects of therapeutic drugs and their impact on the suitability for individual patients.

Seishi Ogawa, Professor, Graduate School of Medicine, Kyoto University, comments:

"We have built this genome information analysis platform equipped with next-generation sequencers to analyze the nature of cancer and discover clues that may one day lead to the creation of new drugs. In collaboration with this platform, and by leveraging the causal discovery technology on Fujitsu's new AI platform, we aim to create next-generation cancer genome analysis technology with unique capabilities to accelerate drug development."

Daisuke Morishita, CSO, Chordia Therapeutics, Inc., comments:

"The identification and use of biomarkers that support drug development play an important role in determining the success of clinical trials when we're developing new drugs. We are eager to embark on this collaboration with Fujitsu and Kyoto University, which will allow us to further explore biomarkers for promising new drugs under development."

Seishi Okamoto, EVP, Head of Fujitsu Research, Fujitsu Limited, comments:

"In April 2023, Fujitsu announced the global launch of its new AI platform, code-named "Kozuchi." The platform offers users in a range of industries and fields the ability to rapidly test promising applications using advanced AI technologies. This project demonstrates the innovative capabilities of the causal discovery technology provided by the platform, and we are optimistic that this trial will offer a positive impact on patient well-being and medical research as an example of how industry and academia can work together, as well as strong use case for other potential users of Kozuchi."

Notes

1. **Kyoto University:**

   Location: Kyoto City, Kyoto Prefecture; President: Minato Nagahiro.

2. **Chordia Therapeutics, Inc.:**

   Headquarter: Fujisawa City, Kanagawa Prefecture; CEO: Hiroshi Miyake

3. **Biomarkers:**

An objective indicator of disease changes and responses to treatment by examining substances in the body, such as proteins and genes included in blood and urine, and in cancer tissue.

4. **next-generation sequencer:**

   A next-generation type of device (sequencer) that can read nucleotide sequence information of nucleic acids (DNA and RNA), enabling high-speed, large-scale nucleotide sequence analysis.

5. **RNA regulatory stress:**

   A new feature of cancer caused by an abnormal accumulation of RNA, a molecule that plays an important role in the synthesis of proteins from genes.

About Kyoto University Open Innovation Institute

The Open Innovation Institute is a research center that plans and conducts full and large-scale collaborative studies between organizations based on university-wide research themes. Its objective is to give back to society the fruits of innovation produced by collaborations with industries, by having the university's Office of Society Academia Collaboration for Innovation Work cooperate with the Kyoto University Group companies and intensively managing their joint research. It also creates a virtuous cycle through academic-industrial alliance by getting the best out of Kyoto University's strengths and consolidating its full power.

About Chordia Therapeutics, Inc.

Chordia was established in November 2017 at Shonan Health Innovation Park ("Shonan iPark") in Fujisawa, Kanagawa Prefecture, as a biotech company engaged in the research and development of novel therapies for cancers, with the goal of researching and developing first-in-class anti-cancer drugs and creating innovative new drugs.

In addition to its leading program for CTX-712, Chordia is engaged in the research of several developments in our pipeline, including CTX-439, a CDK12 inhibitor, which is expected to be effective in cancers with specific abnormalities, as well as GCN2 inhibitors. Website: https://www.chordiatherapeutics.com/en/

About Fujitsu

Fujitsu's purpose is to make the world more sustainable by building trust in society through innovation. As the digital transformation partner of choice for customers in over 100 countries, our 124,000 employees work to resolve some of the greatest challenges facing humanity. Our range of services and solutions draw on five key technologies: Computing, Networks, AI, Data & Security, and Converging Technologies, which we bring together to deliver sustainability transformation. Fujitsu Limited (TSE:6702) reported consolidated revenues of 3.7 trillion yen (US$28 billion) for the fiscal year ended March 31, 2023 and remains the top digital services company in Japan by market share. Find out more: www.fujitsu.com/

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