

News Release

Ricoh to strengthen support for drug discovery services using mRNA *Agreement reached with Elixirgen Scientific, a biotechnology company, to acquire additional shares*

TOKYO, May 17, 2022 – Ricoh Company, Ltd. and Elixirgen Scientific, Inc. (Baltimore, Maryland, USA) announce that they have agreed and signed a contract for Ricoh to acquire a majority stake in Elixirgen Scientific. Ricoh had previously acquired 34.5% of Elixirgen Scientific's stock in 2019. By having Elixirgen Scientific as its subsidiary, Ricoh aims to contribute to human health and security by accelerating the development and construction of drug discovery infrastructure to solve social issues such as aging and pandemics.

Elixirgen Scientific contributes to the efficiency of drug discovery research and disease research using iPS cells with its proprietary "Quick-Tissue™" technology that enables high-speed differentiation^{*1} of iPS cells^{*2} and ES cells (embryonic stem cells) into various types of cells. Ricoh will expand the application of Elixirgen Scientific's technology and contribute to the acceleration of personalized medicine^{*3} and drug discovery research with its digitalization and Artificial Intelligence (AI) technologies. In addition, by utilizing Elixirgen Scientific's abundant cell experiment data, the two companies aim to start a business in predicting drug responses and disease mechanisms using AI technology.

In September 2021, Elixirgen Scientific became the first company in the Asia-Pacific region** to launch a CDMO business (contract development and manufacturing of pharmaceutical products) for mRNA^{*4} drugs. In November of the same year, it established a Japanese subsidiary, Elixirgen Scientific Japan, to strengthen its business in Japan. Ricoh will support the company's business with its automation technology and production management know-how to expand the scale and efficiency of the CDMO business. By strengthening Elixirgen Scientific's medical mRNA production capacity in the region, Ricoh will support the production of vaccines and other mRNA investigational drugs and mRNA active pharmaceutical ingredients.

** Based on research by Elixirgen Scientific, as of September, 2021.

Overview of Drug discovery support using mRNA and iPS cells

As new infectious diseases and the aging of the population continue to advance worldwide, personalized medicine is expected to become a reality. On the other hand, shortening the development period for the production of candidate substances, selection of substances with medicinal properties, and safety verification has become an important issue in researching and developing new drugs required for personalized medicine.

As the rapid commercialization of vaccines for COVID-19 has attracted attention, drug discovery using mRNA can significantly shorten the research and development period compared to

conventional pharmaceuticals. This is because it is possible to design effective sequences in a short period by, for example, copying a part of specific genetic information. It is expected that this technology will be utilized in vaccines and cancer drugs.

By differentiating iPS cells into a variety of cell types, iPS cells can be used to pre-confirm the effects of candidate drugs on patients with various genetic backgrounds. As a result, candidate drugs for animal experiments and clinical trials can be narrowed down quickly and efficiently.

***1 Differentiation**

The process of creating target cells from iPS cells and ES cells.

***2 iPS cells**

Induced pluripotent stem cells. Pluripotent stem cells are artificially created by culturing cells and are capable of differentiating into various types of cells.

***3 Personalized medicine**

The optimal treatment according to the condition of the disease and the constitution of the individual (genetic information, etc.).

***4 mRNA**

Messenger RNA (Ribonucleic acid): RNA that copies part of the genetic information from DNA and synthesizes proteins.

Related News

Ricoh Announces Strategic Business Partnership with Elixirgen Scientific

https://www.ricoh.com/release/2019/0619_1

Offering assay-ready multi-electrode array plates to measure electrical activities of human iPS cell-derived neurons

https://www.ricoh.com/release/2020/1203_1

For further information, please contact:

Ricoh Company, Ltd. www.ricoh.com

Public Relations TEL: 050-3814-2806 E-mail: koho@ricoh.co.jp

Biomedical Business Group E-mail: healthcare_ipsc@jp.ricoh.com

Elixirgen Scientific, Inc. <https://www.elixirgensci.com/>

E-mail: pr@elixirgensci.com

| About Elixirgen Scientific |

Elixirgen Scientific is a Baltimore, Maryland-based biotechnology company engaged in the research, development, manufacture, and sale of stem cell-related products and contract manufacturing of synthetic mRNA (established Elixirgen Scientific Japan in November 2021). The company is a biotech company.

Based on its technology for reproducibly inducing differentiation from iPS cells into various types of cells in about one week and its technology for synthesizing mRNA in a cGMP-compliant environment, which is the standard for manufacturing and quality control of pharmaceutical products, the company aims to improve the quality of people's lives by supporting faster and lower-cost drug discovery.

For further information, please visit www.elixirgensci.com

| About Ricoh |

Ricoh is [empowering digital workplaces](#) using innovative technologies and services that enable individuals to work smarter from anywhere.

With cultivated knowledge and organizational capabilities nurtured over its 85-year history, Ricoh is a leading provider of digital services, information management, and print and imaging solutions designed to support digital transformation and optimize business performance.

Headquartered in Tokyo, Ricoh Group has major operations throughout the world and its products and services now reach customers in approximately 200 countries and regions. In the financial year ended March 2022, Ricoh Group had worldwide sales of 1,758 billion yen (approx. 14.5 billion USD).

For further information, please visit www.ricoh.com

###