

## Ricoh announces strategic business partnership with Elixirgen Scientific

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**Innovative new offerings combine cell differentiation induction and bioprinting technologies to improve efficiency of drug discovery process**



Ricoh Company has announced it has entered into a strategic business partnership with Elixirgen Scientific, Inc. to develop innovative biomedical products and services that support drug discovery based on cell differentiation technology.

Ricoh and Elixirgen Scientific plan to grow this biomedical business into a 20-billion-yen (\$1.86 billion) business by 2025.

Together the two companies will support drug discovery through the manufacture and delivery of cells differentiated from induced pluripotent stem (iPS) cells, cell chips seeded with precisely differentiated cells, and evaluation services for drug responses. As part of the agreement, Ricoh will acquire a 34.5 percent stake in Elixirgen Scientific and launch a biomedical business in North America this year.

Elixirgen Scientific owns Quick-Tissue™ technology that can induce iPS cells and embryonic stem cells to various types of cells directly, and this technology achieves highly efficient and homogeneous cell differentiation within just 10 days. It is expected that disease specific iPS cells, which means iPS cells derived from patients with that disease, can be used as a disease model for drug screening. As differentiated cells manufactured in this process have functions close to mature cells, those cells show phenotypes specific to that disease very well. Ricoh's bioprinting technology enables precise control of the number and placement of cells using its inkjet head technology, which has been perfected over the last 40 years.

Nobuhiro Gemma, Fellow, General Manager of HealthCare Business Group, Ricoh Company, Ltd., stated, "We are thrilled to partner with Elixirgen Scientific on this new biomedical development initiative. By combining the technologies from our two companies, it will be possible to produce disease-specific cell chips derived from multiple iPS cell lines, for example. These cell chips can evaluate the diversity of human responses of chemicals at one time in terms of efficacy and toxicity before moving to the clinical trial stage. In the process of drug discovery, this method using the cell chips will greatly improve the entire drug development process because human diversity is considered in the earliest stage."

“Ricoh has an established healthcare business with solutions such as its RICOH Regional Health Net; and in the medical imaging area, with its magnetoencephalography solution. We have also been developing technologies such as 3D Bioprinter and reference DNA plates, and with today's announcement, this agreement establishes Ricoh firmly as a player in the biomedical field,” added Nobuhiro Gemma.

Ricoh entered the healthcare market with software and services 12 years ago in order to help address issues arising from an aging society, combined with a corresponding reduction in healthcare expenditure, among other operational efficiencies.