NEWS RELEASE

2024.11.5
Mitsui Chemicals, Inc.

# Mitsui Chemicals Invests in Clinical Kidney Disease Drug Developer Rege Nephro

Mitsui Chemicals, Inc. (Tokyo: 4183; President & CEO: HASHIMOTO Osamu) today announced that it has invested in Rege Nephro Co., Ltd. (Kyoto; CEO: MORINAKA Akifumi), a company conducting R&D primarily for clinical kidney disease drugs, via 321FORCE Global Innovation Fund L.P. (321FORCE™; managed by Global Brain Corporation).

## ■ About Rege Nephro

Rege Nephro is a clinical-stage drug discovery startup utilizing technology based on initial research from Professor OSAFUNE Kenji of Kyoto University's Center for iPS Cell Research and Application (CiRA). The company uses iPS cells to develop treatments for diseases relating to the kidney, pancreas and liver. In addition to working on cell therapy that transplants cells derived by inducing differentiation from iPS cells into patients to treat them, Rege Nephro uses pathological models constructed from patient-derived cells, or from cells derived from differentiation-induced iPS cells for a specific disease, to search for and develop new treatments. Mitsui Chemicals has been working with Rege Nephro and CiRA since 2022 on joint research aimed at developing exosomes[*1] as a new modality (treatment method).

*1 Secreted by cells, exosomes are granular vesicles with a diameter of approximately 50–150 nanometers. Exosomes serve an important role in intercellular communication.

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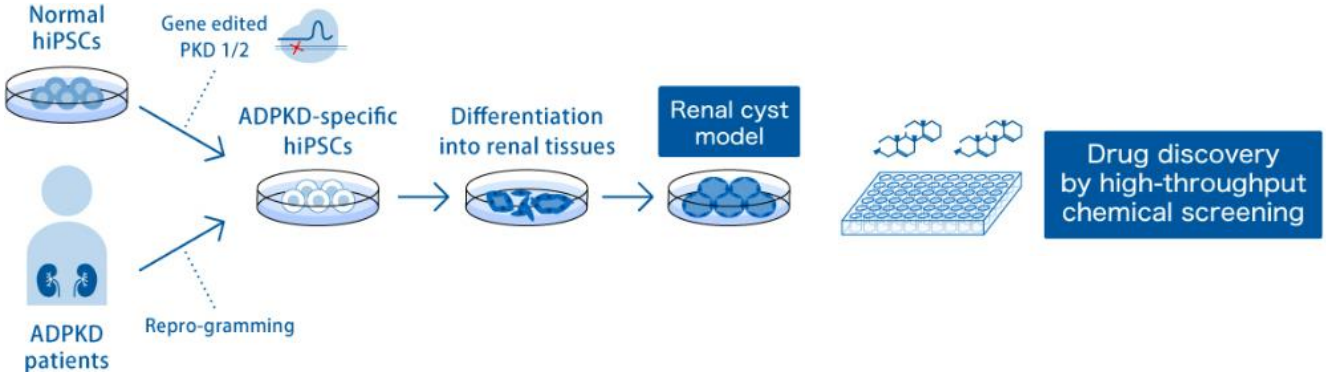
| Name | Rege Nephro Co., Ltd. |
| Location | Med-Pharm Collaboration Building, Kyoto University, 46-29 Yoshida-Shimoadachi-cho, Sakyo-ku, Kyoto |
| CEO | MORINAKA Akifumi |
| Establishment | 2019 |
| Business | R&D, production and sale of therapeutic drugs for renal diseases |
| URL | https://www.regenephro.co.jp/en |

## ■ Investigation and development of novel therapeutic drugs

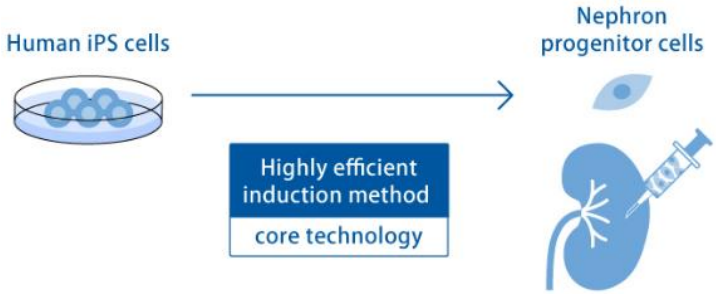
Using kidney organoids[*2] that replicate autosomal dominant polycystic kidney disease (ADPKD)[*3] cysts, Rege Nephro identified the retinoic acid receptor (RAR) agonist as a new therapeutic candidate and initiated clinical trials in December 2023. Further, utilizing this pathological model, the company employs high-throughput screening equipped with automated technology to select potential new therapeutics from tens of thousands of compounds with high efficiency.




Selection of New Therapeutic Drugs Using Disease Models

*2 Organ-like Structures Reproducing Liver Architecture and Physiological Functions Using Cultured Cells.
*3 The most common inherited renal disease, characterized by the development and gradual enlargement of numerous cysts (fluid-filled sacs) in the kidneys. The progressive renal dysfunction often results in end-stage renal disease, requiring artificial dialysis or kidney transplantation in approximately half of patients by the age of 70. However, there is still no definitive curative treatment available.

Rege Nephro has also found from several mouse model experiments that renal dysfunction can be improved by transplanting nephron progenitor cells[*4] created from human iPS cells into the kidneys. The company is therefore proceeding with development of cell therapy using human iPS cell-derived nephron progenitor cell RN-032 to treat chronic kidney disease (CKD)[*5].



CKD Cell Therapy Using Human iPS Cells

*4 Cells that create nephrons, the smallest functional units of the kidney.
*5 More than 13 million people in Japan suffer from CKD, and more than 40,000 people are newly introduced to dialysis therapy each year due to end-stage renal disease. The current dialysis population exceeds 340,000. Its healthcare cost is about 1.6 trillion yen in Japan, accounting for 4 percent of all medical expenses, making it one of the most financially burdensome medical conditions. However, there is no fundamental cure other than kidney transplantation.

Mitsui Chemicals is positioning the cell culture sector as a growth sector for the future, and is engaged in development of cell culture plates and devices using proprietary Mitsui Chemicals technologies and assets. By investing in Rege Nephro through 321FORCE™, Mitsui Chemicals aims to delve further into business opportunities in the cell culture sector and expand its new business portfolio. Going forward, 321FORCE™ will continue to leverage joint development efforts with the Mitsui Chemicals Group and startups in order to promptly grasp social issues and needs, create solutions in response, and contribute to sustainable growth.

**■ About 321FORCE™**

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| Name | 321FORCE Global Innovation Fund L.P. (321FORCE™) |
| General partner | Global Brain Corporation |
| Limited partner | Mitsui Chemicals, Inc. |
| Targets for investment | All industrial sectors, including life and healthcare, mobility, ICT, carbon neutrality, digital transformation and new materials |
| URL | https://jp.mitsuichemicals.com/en/special/cvc_general/index.htm |