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Sumitomo Dainippon Pharma Co., Ltd.
Center for iPS Cell Research and Application, Kyoto University
Hitachi, Ltd.

Sumitomo Dainippon Pharma, CiRA and Hitachi Start Joint Research on Development of Key Evaluation Technologies: Evaluation for Industrialization in the Field of Regenerative Medicine
--- Toward Application of Human iPS Cell for Parkinson's Disease Treatment ---

Sumitomo Dainippon Pharma Co., Ltd. (Head Office: Osaka, Japan; President: Masayo Tada) ("Sumitomo Dainippon Pharma"), Center for iPS Cell Research and Application, Kyoto University (Kyoto; Director: Professor Shinya Yamanaka) ("CiRA") and Hitachi Ltd. (Headquarters: Chiyoda-ku, Tokyo, Representative Executive Officer and President & COO: Toshiaki Higashihara) ("Hitachi") jointly announced today that they are starting a collaborative research program within the framework of the "Project Focused on Developing Key Evaluation Technology: Evaluation for Industrialization in the Field of Regenerative Medicine," a government-sponsored program for which grant was awarded to the organizations by the Ministry of Economy, Trade and Industry and The Japan Agency for Medical Research and Development for fiscal year 2015.

CiRA and Sumitomo Dainippon Pharma have been engaged in a joint research with a view to developing a clinical treatment of patients with Parkinson's disease by the use of human iPS cells. Hitachi, meanwhile, has promoted development of an automatic cell culturing technology. The three organizations have now agreed to work together to develop the base technology and the evaluation methods for establishing a production process of dopaminergic neural progenitor cells with a view toward clinical application of human iPS cell-based regenerative medicine technology for patients with Parkinson's disease. The objective of the joint program is to establish a production method which would enable efficient mass-production and stable supply of safe and consistent quality cells.

Major research items and responsibility sharing

Major research items	Responsible organizations
To develop evaluation method for antibody-based cell sorting* processes	Sumitomo Dainippon Pharma
To develop evaluation methods for cryopreservation of intermediate and final product cells	Sumitomo Dainippon Pharma CiRA
To evaluate validity of processing methods adjusted for introduction of an automatic cell culturing equipment	Hitachi Sumitomo Dainippon Pharma
Preliminary study and theory construction on the efficacy and safety of cells in non-clinical studies	CiRA

The chief research scientists of the organizations responsible for the joint work

Organization	Responsible chief scientist
Sumitomo Dainippon Pharma	Toru Kimura, Executive Officer and Director, Regenerative & Cellular Medicine Office
CiRA	Professor Jun Takahashi, Deputy Director
Hitachi	Shizu Takeda, Chief Scientist, Center for Exploratory Research, Research & Development Group

The three organizations will seek to apply the outcomes of the collaborative work to establishing the world's first Parkinson's disease treatment by the use of iPS cells.

* Cell sorting: A method for obtaining only objective cells

(Reference information)

About the production technology for iPS cell-derived dopaminergic neural progenitor cells
In one of its production process steps for dopaminergic neural progenitor cells, Sumitomo Dainippon Pharma employs a proprietary cell purification technology discovered by KAN Research Institute, Inc. and owned by Eisai Co., Ltd.

About Sumitomo Dainippon Pharma
Sumitomo Dainippon Pharma focuses its research and development on psychiatry & neurology and oncology areas, where high unmet medical needs exist in order to channel its energies into innovative drug discovery. By the same token, Sumitomo Dainippon Pharma seeks to apply leading-edge science such as iPS cells to drug discovery and strengthen activities in regenerative medicine and cell therapy to develop medicines for refractory diseases. For more information, visit the official website: http://www.ds-pharma.com/

About CiRA
CiRA was founded in 2010 as the Kyoto University center specialized in the research and application of iPS cells. Currently some 30 research groups are engaged in basic and applied research activities as well as healthcare ethics study. For more information, visit the official website: https://www.cira.kyoto-u.ac.jp/e/index.html

About Hitachi
Hitachi is focusing more than ever on the Social Innovation Business, which includes power & infrastructure systems, information & telecommunication systems, construction machinery, high functional materials & components, automotive systems, healthcare and others. The company's consolidated revenues for fiscal 2014 (ended March 31, 2015) totaled 9,761 billion yen. In the field of regenerative medicine, Hitachi is active in cell processing center and is developing automatic culturing technologies. For more information, visit the official website: http://www.hitachi.com