Graduate School of Medicine/Faculty of Medicine, Osaka University and Astellas establish joint research chair for R&D on next-generation cell therapy

Tokyo, February 2, 2015 - The National University Corporation Osaka University ("Osaka University"; Administrative campus located in Suita-city, Osaka, Japan; President, Toshio Hirano) and Astellas Pharma Inc. ("Astellas"; TSE: 4503; Headquarters: Tokyo; President & CEO: Yoshihiko Hatanaka) have entered into an agreement to establish a joint research chair* with a view developing fundamental technologies for next-generation cell therapies and bringing those technologies into practical use. Under the agreement, the joint research chair of “Department of Translational Cell Therapy (Organizing Professor: Professor Yoshiki Sawa, Cardiovascular Surgery, Department of Surgery)” has been established within the Graduate School of Medicine/Faculty of Medicine, Osaka University and will be tasked with developing the new technology platforms required to advance practical use of cell therapies, which are expected to be the next-generation therapies. The department will operate a laboratory facility in the Bio Systems Building of the Graduate School of Frontier Biosciences.

The primary research theme is development of technologies to make transfused/transplanted cells highly functional and to enhance their therapeutic effects through optimization of the sources of transfused/transplanted cells and the cell processing technologies, according to specific medical conditions. Other research themes will include analyses of immune responses induced by and the pharmacokinetics and safety of transfused cells for research and development, aimed at realizing practical utilization of allogeneic cell transplantation therapy. The joint research chair will be retained for a term of three years from January 2015.

Purpose of joint research chair

Cell therapy is a form of medical treatment in which human cells are transfused/transplanted to restore biological function. It is based on state-of-the-art technology that takes advantage of the multifunctional characteristics of cells and it is expected to bring about high-level therapeutic effects that cannot be achieved through existing pharmacotherapies. However, a number of issues have still to be addressed before it becomes established as a mainstream therapy, including that of rejection associated with allogeneic cell transplantation therapy, and those concerning some conditions for which current cell transplantation therapy is not sufficiently effective. It is crucial for establishment of a next-generation therapy to resolve these issues and to develop fundamental technologies for research on highly effective cell therapies.

This joint research chair will address establishment of fundamental technologies for cell therapy research, early realization of clinical studies, and investigation of potential cell therapy candidates

through collaborative research conducted by experts and researchers from Osaka University and Astellas in the fields of regenerative medicine and cell therapy.

Outcomes of Osaka University research on regenerative medicine

Osaka University, as a research center for regenerative medicine dedicated to realizing world-leading medical treatments, has numerous remarkable research achievements in the fields of preparation and clinical use of therapeutic cells for cardiac and ophthalmic diseases, construction of 3-dimensional tissues, and development of culture base materials. . Notable among these outstanding research achievements in cardiology and ophthalmology are treatment of severe cardiac diseases through transplantation of autologous skeletal muscle cell sheets or iPS cell-derived myocardial cell sheets and treatment of corneal diseases with regenerative corneal cell sheets. In 2003, a Medical Center for Translational Research was established at Osaka University Hospital to support translational research activities. Among its numerous achievements to date has been development of unique medical technologies and vaccines through the established research system for early implementation of clinical trials of promising new technologies and new pharmaceuticals developed in Japan by the university.

Astellas initiatives in regenerative medicine research

Since May 2013, Astellas has undertaken major reorganization to reinforce the company's drug discovery capabilities and is promoting research and development aimed at creating innovative medical products by taking on challenges in new therapeutic areas and working on fundamental drug discovery technologies under its network type research framework. The company established a "Regenerative Medicine Unit" in April 2014 as a new organization dedicated to expanding its research activities and development efforts for established regenerative medicine research and embarking on full-scale research into cell therapies. Using somatic stem cells and human induced pluripotent stem (iPS) cells, the unit is currently engaged in research activities targeting functions and medical conditions in which competitive superiority can be achieved, aiming at early discovery of cell therapy products through a combination of in-house research and external resources, including incorporation of relevant existing technologies and the creation of proprietary technologies.

*Joint Research Chair (Program)

A program for establishing a joint research chair at a university through collaboration between the university and one or more representatives of the relevant industry. This program is aimed at facilitating excellent research outcomes by focusing on sound objectives through collaborative research activities on common themes undertaken by researchers from the university and the sponsoring private company, which operate the program as equal partners.

###