## **Kyoto University and Astellas Co-research at the Innovation Center for Immunoregulation Technologies and Drugs of Next Generation**

Kyoto University (administrative office: Kyoto, President: Kazuo Oike) and Astellas Pharma Inc. ("Astellas," Headquarters: Tokyo, President and CEO: Masafumi Nogimori) today announced that two institutions co-research at the innovation center for immunoregulation technologies and drugs of next generation. This innovation center has been adopted to the program, "Formation of Innovation center for fusion of Advanced Technologies," funded by the Japan Science and Technology Agency (JST) under the Ministry of Education, Culture, Sports, Science and Technology (MEXT).

The morbidity of allergy such as atopy, asthma, pollinosis exceeds one third of the total population in the advanced nations including Japan. The discovery of innovative drugs that treat intractative diseases such as reheumatoid arthritis and Crohn's diseases in addition to allergy has been an urgent need in such nations. Safe immunoregulation technologies and drug discovery which are required to build up the next generation are indispensable where new therapeutic immunoactivators for cancers and chronic infectious diseases including hepatitis is in expectation. Kyoto University and Astellas has discussed the co-research at the innovation center for immunoregulation technologies and drugs of next generation through the fusion of the most advanced fundamental immunology research and drug discovery technologies in the global needs for innovative immunoregulation drugs. This project has been started in response to the adaptation to the program, "Formation of Innovation center for fusion of Advanced Technologies," funded by the JST under the MEXT.

Kyoto University has obtained large amount of important research results in the structure and function of antibody genes, the regulation of immune response by regulatory T-lymphocytes and dendritic cells, the occurrence and differentiation of lymphocytes and the mechanisms of cancer immune and allergic response. Moreover, Kyoto University Hospital has the greatest practices for the living donor liver transplantations and also serves as the base for pancreas transplantation, lung transplantation and so on. Institute for Frontier Medical Sciences is also working hard to research the frontier medicines through ES cells. Astellas is making efforts to discover global medicines through in-licensing of the advanced drug discovery technologies such as the genome drug discovery. Tacrolimus is an immunosuppressant discovered and developed by Astellas and has been most frequently prescribed for suppression of organ rejection in the organ transplantation around the world.

Drug discovery takes great amount of time, cost and efforts. The probability of obtaining a finished product which exhibits safety and efficacy out of many candidate compounds is extremely small. One of the reasons for this small probability is assumed that the fundamental

medical research and the drug discovery processes are gone proceed independently in different sites. Kyoto University where strong fundamental immunology research has been taken place and Astellas where discovery of global medicines is aimed and the practices exist work jointly in this innovative center. This innovative center serves as the first model of the joint industry-university research center in Japan. The facilities of this innovative center will be located in the Faculty of Medicine, Kyoto University. The in-house research team of Kyoto University, worldwide public applied young research team and the research team of Astellas work jointly in order to discover medicines related to immunity. The team for intellectual properties and the technology support team will be set in this innovative center as well.

Kyoto University and Astellas will work jointly to achieve the innovation of drug discovery system and many innovative immunoregulation drugs in next generation from Japan to the world. Two institutions also try to contribute to nurture personnel in fundamental medical research, drug discovery technology and intellectual properties.

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