Medical Innovation Center

Director
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The Kyoto University Graduate School of Medicine established the Medical Innovation Center (MIC) to promote the study of human medicine through integrated medical research conducted between university and pharmaceutical companies with state-of-the-art technologies for the discovery of new drugs, leading the way for the creation of new health care systems, particularly in innovative therapeutics.

Based on collaborative research conducted between whole companies and the university focusing on specific disease areas, the MIC aims to identify drug targets that are truly useful in clinical research, using the technologies available to analyze the extensive patient information and clinical samples collected at the university's medical school and hospital. This creates links between the discoveries on the basic structures and mechanisms of living organisms – a tradition at the Kyoto University Graduate School of Medicine – with the elucidation of the mechanisms behind human diseases.

www.med.kyoto-u.ac.jp/mic/

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Ongoing Joint Research Programs with Private Companies

TK project – with Takeda Pharmaceutical Co. Ltd

The Takeda-Kyoto University (TK) project was begun in April 2011 as a five-year R&D project focusing on the discovery of new drugs that act on the central nervous system to treat obesity and schizophrenia. Obesity has become a leading preventable cause of death worldwide and one of the most serious public health problems in the 21st century. As of 2011, around 24 million people worldwide have been affected by Schizophrenia. Under the supervision of Profs Nakao, Kangawa and Sawa of Kyoto University, this project provides a great opportunity to develop innovative drugs to cure patients through the discovery of new targets, indentifying translational biomarkers and conducting clinical research by utilizing all findings, knowledge, research capabilities and assets from Kyoto University, Takeda and their worldwide networks.

DSK project – with Dainippon-Sumitomo Pharma Co. Ltd

Cancer is thought to be inevitable in organisms that have flexible mechanisms in regulating development, growth and tissue repair. The malignant behavior of cancer cells, however, must be controllable in some way. In this project sponsored by Dainippon Sumitomo Pharma Co. Ltd. we have focused on promising areas of cancer research (e.g. angiogenesis, invasion, metastasis, hypoxia-response, epigenetics, alternative splicing, and bioinformatics) to elucidate the common features and molecular bases of malignant phenotypes associated with cancer cells. Our aim is to develop this knowledge for clinical use as rapidly as possible.

www.dsk.med.kyoto-u.ac.jp/english/index.html

TMK project – with Mitsubishi Tanabe Pharma Co. Ltd

Chronic kidney disease (CKD) is a worldwide public health problem, and the number of patients affected with this disease has continued to increase. One of the reasons for the increase is the lack of effective treatments with which to deter the progression of CKD.

Our aim is to clarify the molecular mechanisms underlying kidney disease progression and to identify the potential therapeutic targets for CKD.

We further try to generate relevant animal models for human CKD, which will provide us with important information to explore the molecular pathogenesis of CKD.

The TMK project consists of three projects selected from applications, and two additional internal labs within Kyoto University.

MIC Related project: AK project – with Astellas Pharma Inc.

Kyoto University and Astellas Pharma Inc. has conducted research at the innovation center for immunoregulation technologies and new drugs for future generations incorporating the most advanced, fundamental and clinical immunology research and drug discovery technologies for the global needs in the field of innovative immunoregulation drugs. This project has started since 2007, in response to the adaptation to the program – "Formation of Innovation center for fusion of Advanced Technologies"– funded by the Japan Science and Technology Agency (JST) under the MEXT. The AK project has its own research laboratories on the medical school campus, with basic research scientists from the university and drug discovery scientists from Astellas working with clinical research scientists from clinical departments.

Kyoto University Medical Science and Business Liaison organization (KUMBL) is an organization set up in 2004 in conjunction with the Kyoto University Office of Society-Academia Collaboration for Innovation (SACI), and has contributed to promotional activities in collaboration with industries ever since. The volume of work is wide-ranging and includes assistance for the set-up of material transfer agreements and technology transfers, support for the development of practical applications of technologies, as well as the enrichment of education on intellectual property rights and management.

www.med.kyoto-u.ac.jp/KUMBL/e/index.html