(Fiscal Year 2007-2011)

Life Sciences IT Environment Nanotech Materials

Biomedical Cluster Kansai

KANSAI(Saito & Kobe)

Striving to be the World's No.1 Bio-cluster

Cluster Vision

Located in northern Osaka (Saito) and focusing on drug discovery, the Senri Life Science Foundation (Senri LF) and the Foundation for Biomedical Research and Innovation (FBRI), which is located in Kobe and focuses on advanced medical practice, are collectively known as "Japan's No. 1 bio-cluster" and aim to be an internationally competitive bio-cluster with world-class infrastructure for life science research and Japan's largest concentration of bio-industry. We will strive to be "the world's No. 1 bio-cluster."
In drug discovery, research outcomes are commercialized by the efforts such as technology transfers and set up of corporations. We also convey industry needs to research institutes and enhance the "Biomedical Chain" (system to transfer technology and start a new research upon the needs of the users).
We will construct a "Medical Innovation System" (to make medical/health services efficient and practical by combining researchers' and corporations' technologies) from citizenry's perspective on advanced/preventive medical services.
We promote novel drug development by a pharmaceutical company, safe and reliable provision of an advanced medical care, and scientific supports for health care by sharing infrastructure in both regions.

Project Overview

1. To promote research outcomes to be commercialized in life science field

In the drug discovery, we aim to strengthen the flows, called"Biomedical Chain": the fundamental research outcomes by research institutes in life science field are commercialized by being transferred to leading pharmaceutical companies or start-up corporations. In addition, new needs from these companies will be conveyed to the research institutes and steady flows of supply and demand will be formed.
In the regenerative medicine and lifestyle diseases, we aim to form the "Medical Innovation System" by constructing the safe, secure and high-quality system offering medical care of high level and by developing the infrastructure of the innovative medical care by the citizen participation.
At the same time, we conduct consultation and guidance about the intellectual property and aim to construct the intellectual property practical use promotion system. Additionally, we develop personnel training activities to foster superior human resources required by the companies in life science field in Kansai.

2. International Cooperation Programes

(1) Structure of an international value chain of in-silico drug discovery technologies

This program is planned to strengthen a worldwide competitive power of Japan in drug discovery. Through the collaboration with the influential clusters (British: Cambridge University, France: Alsace Bio Valley), researchers can use superior, innovative in-silico drug discovery technologies that are independently developed in England, France and Japan and can complement each other in order to develop a new drug.

(2)International Collaboration Programme ～ Prevension and Treatment for Diabetes ～

About an association between race difference and diabetes onset, as for the thing of cooperation with Medicon Valley or Singapore, researchers identify a diabetes susceptibility gene; study it, and aim at the Asian diabetes study playing a key role by can advance by development of prevention / the diagnostic procedure to be based on it.

Project Director
Michihiro Tsuchiya

Mitsubishi Tanabe Pharma President & Representative Director
The Japan Pharmaceutical Manufacturers Association (JPMA) Vice President

Striving to be the World's No.1 Bio-cluster

Biomedical Cluster Kansai will work to form new biomedical clusters maximizing the research infrastructure for both drug discovery (Saito) and regenerative medicine (Kobe) under the Biomedical Cluster Kansai Project.
Industry-academic-government collaboration is an important strategy for corporations. Searching for novel drug discovery targets and drug discovery-related technologies is extremely important for drug discovery research but companies cannot do all of this work themselves. The search for drug discovery targets and technology will not lead to results right away, but producing innovative medical drugs is essential. Therefore, we expect results from universities and public organizations with regard to this fundamental research. Our cluster business includes community improvement and we will train human resources continuously and proactively for future progress.
As Chief Director, I will do my best to make Kansai an international biomedical cluster.

Cluster Headquarters

○President……Hiroo Imura (Chairman, Foundation for Biomedical Research and Innovation)
○Adviser……Tadamitsu Kishimoto (Chairman, Senri Life Science Foundation)
○Project Director……Michihiro Tsuchiya (Mitsubishi Tanabe Pharma President & Representative Director)
(Northern Osaka Region)
○Chief Scientist……Koichi Yamanishi (Director General, National Institute of Biomedical Innovation)
○Chief Science and Technology Coordinator…Tsutomu Takagi
○Science and Technology Coordinator…Hideki Yanagi Hiromichi Imoto, Fumiko Shimoda
(Kobe Region)
○Chief Scientist……Shin-Ichi Nishikawa (Deputy Director, Center for Developmental Biology)
○Science and Technology Coordinator…Ryoji Yano Yoshikuni Ito, Yoshiaki Fujihara

Core Organization

Senri Life Science Foundation, Foundation for Biomedical Research and Innovation

Participating Research Organizations (Bold: Core Research Organization)

Industry…KAN Research Institute, Inc., Genomix Co., LTD., Technoview, Inc,
KOKEN CO., LTD, Takashima Engineering, Sysmex Corporation,
Novo Nordisk Pharma,
The Research Foundation for Microbial Diseases of Osaka University,
Kyowa Hakko Kirin Co., Ltd., Genomldea Inc., Link Genomics, Inc.,
Asubio Pharma Co., Ltd.
Academia…**Kyoto University, Osaka University, Kobe University,**
Osaka Prefecture University, Shiga University of Medical Science,
University of Cambridge (UK),
Institute of Genetics and Molecular and Cellular Biology (IGBMC in France),
National University of Singapore, Lund University ,
Nara Institute of Science and Technology, Osaka City University
Government…**National Institute of Biomedical Innovation (NIBIO),**
RIKEN Center for Developmental Biology,
RIKEN Center for Molecular Imaging Science,
National Cardiovascular Center,
National Hospital Organization Osaka National Hospital,
Institute of Biomedical Research and Innovation,
Translational Research Informatics Center,
National Hospital Organization Kyoto Medical Center,
National Institute of Advanced Industrial Science and Technology (AIST),
Joslin Diabetes Center, Medicon Valley Alliance

Main Results

1. Patent

(1) Professor Yasufumi Kaneda, one of the participating researchers in "Researches for Advanced Cancer Therapy," developed HVJ-E as a therapeutic vector which can encapsulate a gene or protein of interest, in 2001. HVJ-E is an envelope of an inactivated hemagglutinating virus of Japan, and he found at this time that the vector itself had the capacity to activate anti-tumoral immunity and can directly lead human cancer cells to death. Preclinical studies have already confirmed the safety of HVJ-E, and its clinical trials will be carried out in near future.

(2) Mesenchymal stem cells, which are known to differentiate into a variety of cell types such as muscle, fat and bone, attract attention from the point of view of application to medical care. Associate professor Katsuto Tamai found that injured tissues excreted the factor which could mobilize stem/progenitor cells of mesenchymal and epithelial tissues from bone marrow to blood, and invented the medicinal substances which enabled a functional regeneration of injured tissues including a skin ulcer.

Bioreactor for the large-scale production of HVJ

2. International Cooperation

Based on the memorandum between the Life Science Corridor France (Toulouse, Lyon, Strasbourg) and the Kansai Biocluster (Kobe, North Osaka, Kyoto), we have prepared to hold the scientific meeting, "Japan-France Vaccine and Infectious Diseases in Osaka."

Conclusion of Japan-France MOU to enhance cooperation in biomedical field