

Northern Osaka (Saito) Biomedical Cluster



KNOWLEDGE CLUSTER INITIATIVE



Developing innovative drugs by integrating the knowledge of industry, academia and government

Overview

A number of excellent research organizations are located in Northern Osaka, including Osaka University and the National Cardiovascular Center, and this region is also one of the few in Japan that has such a concentration of leading pharmaceutical companies and other key firms.

The goal in this Project is the formation of a "Biomedical Cluster" that will generate research outcomes of global impact and an international competitive industry. This will be accomplished via the activation of our regional research potential, the promotion of advanced-type research on biopolymers as individualized drugs or as targets for innovative drugs, so called molecular target drugs, and providing support for the technical transfer of research outcomes as well as for bio-venture business creation.

Cluster Headquarters

- **President** Tadamitsu Kishimoto (Previously President, Osaka University, Member, Council for Science and Technology Policy, Cabinet Office)
- **Project Director** Masanao Shimizu
- **Chief Scientist (CS)** Koichi Yamanishi (Dean, Faculty of Medicine, Graduate School of Medicine, Osaka University)
- **Deputy Chief Scientist and Science and Technology Coordinator** Bunji Kageyama
- **Science and Technology Coordinators** Toshiaki Minami, Hidehiko Nakagawa

Core Organization

Senri Life Science Foundation

Participating Research Organizations

(Bold: Core Research Organization)

Industry···AnGes MG, Inc., Cardio Inc., Kringle Pharma Inc., Nitto Denko Corporation., JEOL ,Ltd., Toyobo Co., Ltd., Nikon Corporation., Cybox CO., LTD.

Academia···**Osaka University**, The Research Foundation for Microbial Diseases of Osaka University

Government···National Cardiovascular Center, Osaka Medical Center for Cancer and Cardiovascular Diseases, and others



Project Director

Masanao Shimizu, Ph.D.

Creating a Bio Center to Attract Scientists from All over the World

We have already entered into the third year of our Knowledge Cluster Initiative.

During these years, we have acknowledged the cooperation of relevant persons, and have put in place a project implementation organization. Within this organization, in terms of the research and development aspects, we have established a combined-type research group for the advancement of knowledge clustering. Together with this, we have also provided guidance and leadership in the progress management of research from both scientific and industry-generation aspects.

In terms of moving towards our objectives, we are seeing steady advancement toward industrialization and novel-business creation by utilizing research outcomes, through our research support activities and other stimulation, including opinion exchange meetings among specialists in different fields such as physicians and engineers in order to exchange group venues which can ensure matching seeds with needs, as well as the performance of patent surveys, market surveys, and other important support work.

Along with the implementation of a certain degree of regulation mitigation in the cluster formation as a "Special District for Biomedical Cluster Creation" in Northern Osaka from April 2003, preparations have been made for the

establishment of Medical Foundation Research Institute (tentative name) and Saito Bio Incubator in parallel with the opening of Saito International Culture Park in April 2004.

On the basis of superior activities in the global-level knowledge industries in the Kansai Region, we, the Cluster Headquarters are dedicated to organizing "Kansai Wide Area Cluster" together with the Kobe Cluster where the specialization is projects in regenerative medication. This wide-area cluster aims to serve as an international hub for the life sciences, so that the Cluster can play an important role for the creation and commercialization of innovative and advanced technologies, under a strong alliance between Northern Osaka and Kobe Cluster through collaborative activities. Towards this target, we have already begun the establishment of a research and development system as well as intellectual property strategies over the Wide Area Cluster.

Masanao Shimizu: Non-profit the Association for the Promotion of Bio-Industry in the Kinki Region, Chairman

Outline of the Joint Research by Industry, Academia and Government

On the common axis of "fundamental research concerning molecular medicine creation technologies," three research clusters will be established, with the aim of concentrated research that will lead to practical results and applications.

- ① In the "pharmaceutical creation" cluster, through the discovery of genes that enable disease treatments and through research required for pharmaceutical development, pursuit will be made on the development of innovative drugs for the treatment of intractable diseases.
 - The development of cell control technologies for overcoming the "three major diseases," etc.
 - ② In the "immune and anti-infection strategies" cluster, via the combination of innate immune systems and chemotherapy, progress will be made on the development of effective drugs and vaccines for infectious diseases which have not been susceptible to treatment with conventional chemotherapies such as antibiotics.
 - The development of new technologies contributing to discover innovative drugs for infectious diseases by using interaction between drugs and body function., etc.
 - ③ In the "medical engineering-linked" cluster, through combination of the respective superior technologies of medicine and engineering, progress will be made on the development of advanced technologies for measurement and analysis devices that will serve as a basis for creative research in biomedical fields.
 - The creation of biomolecular control technologies that use optical quantum processes (laser technologies), etc.
- ☆ As a "Kansai Wide-Area Cluster Joint Research Project," collaborative research with the Kobe Cluster is under implementation, aiming at primary treatments of bone diseases such as osteoporosis and degenerative arthritis.
 - The development of control technologies in bone and cartilage differentiation (SAITO Cluster research theme).
 - The development of systems for differentiating bone and cartilage cells from embryonic stem (ES) cells (Kobe Cluster research theme).

