



Tokushima Health and Medicine Cluster

Tokushima

Targeting the establishment of a “world-class clinical and research center for diabetes”

Cluster Vision

We will establish a “world-class clinical and research center for diabetes” that allows us to conduct cutting-edge research and development, and tackle the regional and global urgent needs to “overcome diabetes” by comprehensively applying various achievements to date and fully capitalizing on regional advantages, such as the accumulation of prestigious institutes with high level research and development background, companies with advanced manufacturing technology, leading pharmaceutical companies, and many medical doctors on a population basis, compared with other prefectures. With progress in research and development, we target the establishment of the “Health and Medicine Cluster” as a global center for diabetes where academia and industry will gather nationally and internationally, and patients will be attracted to its advanced clinical services.

Project Overview

Toward the end of the First Phase of Knowledge Cluster Initiative in the Tokushima region, we have focused our attention on research and development to overcome lifestyle-related diseases, and have simultaneously striven to overcome diabetes, e.g. by recruiting internationally-renowned diabetes researchers to institutions in our area and establishing the “Prefectural Conference to Overcome Diabetes” in Tokushima and the “Clinical Research Center for Diabetes” at the Tokushima University Hospital.

In this cluster project, research departments and clinical departments of the University of Tokushima will collaborate, as planned at the “Research and Clinical Development Center for Diabetes”, a newly-formed center, to conduct basic, translational and clinical research on diabetes and its complications, which will foster comprehensive research. We will also evolve past efforts into integrated approaches (from genes to organs) by exploiting proteomics/genomics technologies. Ultimately, we will target the development of revolutionary diagnostic and treatment methods with a focus on the pathogenesis of diabetes.

Industry, academia, and government are striving comprehensively to facilitate the strategic commercialization of research outcomes in order to create a wide range of healthcare industries, including testing and diagnostic devices, foods, pharmaceutical materials, and related healthcare services.

Research and development themes

- I. Advanced clinical research to overcome diabetes
 - (1) A cohort study to identify the mechanism that triggers the onset of diabetes and metabolic syndrome
 - (2) A study to determine countermeasures to insulin resistance that contributes to the development of metabolic syndrome
 - (3) A study on the development of an ICT-based intra-regional health portal system and validation of its effectiveness
- II. The development of diagnostic methods and laboratory tests/devices for diabetes and diabetes-related diseases
 - (1) The development of methods to screen genetic markers and highly sensitive methods of detecting the same
 - (2) The development of methods for screening protein markers and highly sensitive methods of detecting the same
 - (3) The development of devices to test cells and organs and validation of their clinical applications
- III. The development of novel therapeutic methods for diabetes and diabetic macrovascular complications
 - (1) Research and development into methods to prevent the onset of type II diabetes
 - (2) Research and development into methods to prevent the onset of type I diabetes
 - (3) Research and development into methods to treat macrovascular complications of diabetes
- IV. Research and development into foods, and pharmaceutical materials to prevent the onset and progression of diabetes and diabetes-related diseases
 - (1) The development of food products to prevent hyperglycemia and obesity using local specialty farm and aquatic products
 - (2) The development of pharmaceutical materials to overcome obesity and diabetes

Project Director
Shigetada Hamao



The project director, Shigetada Hamao, has a strong record in research and development, commercialization, and management. He has successively held positions of representative director and senior vice president at Eagle Industry Co. Ltd., representative director and president at Tec Information Corp., etc. He loves Tokushima, his home prefecture.

Taking on the challenge of establishing a “world-class clinical and research center for diabetes”

The number of people affected by diabetes in Japan, including those in a pre-diabetic condition, is 22.1 million and globally 248 million. These figures have been rapidly growing. In particular, “Asian diabetes” (one type of diabetes particularly affecting the Asian population, where insulin deficiency becomes apparent without remarkable obesity/insulin resistance), which will dramatically expand in coming decades, is a major issue within Asia, including Japan.

In the Tokushima region, research and development will mainly be pursued by universities which will closely collaborate with research institutes both nationally and internationally. Their achievements will be seamlessly transferred to the industries, and the potential of Tokushima region will be drawn out sufficiently. Accordingly, we provide diabetes-related services and products, and establish a globally pre-eminent clinical and research center for diabetes.

To achieve this goal, ideas, measures, and approaches, transcending the traditional social framework, sectionalism, and way of thinking are needed. We will establish a cluster that befits the new era.

Cluster Headquarters

- President.....Kamon Izumi (Governor, Tokushima Prefecture)
- Vice President.....Toshihiro Aono (President, The University of Tokushima)
Koichi Sasagawa (CEO, Tokushima Industrial Promotion Organization)
- Project Director.....Shigetada Hamao
- Project Vice Director...Tutomu Maruyama
- Chief Scientist.....Yoshimitsu Nagao (Executive Director for Scientific Research and Vice President, The University of Tokushima)
- Commercialization Director...Akira Momii
- Director of Industry-Academia-
Government Collaboration...Yojiro Uchino (Department Head; Commerce, Industry and Labour; Tokushima Prefecture)
- Science and Technology Coordinators...Akira Luchi and Yasuro Kawaguchi
- Intellectual Property Coordinator...Koshiro Goda
- Research and Development Coordinator...Hiroyoshi Horikoshi and Hiromu Sugino
- Intellectual Property Adviser...Toru Sakai

Core Organization

Tokushima Industrial Promotion Organization

Participating Research Organizations (Bold: Core Research Organization)

- Industry...**Otsuka Pharmaceutical Co.,Ltd.**; APRO Life Science Institute, Inc.; Aloka Co.,Ltd.; OurGenic Co. Ltd.; Medical & Biological Laboratories Co.,Ltd.; Ichioka Seika Co.,Ltd.; ICHIMARU PHARCOS CO.,LTD.; KTT Corporation; Shikoku Kakoki Co.,Ltd.; Japan Agricultural Co-operatives Tokushima City; Tani Food Co.,Ltd.; NODA HONEY FOOD CO.,LTD.; BL Co.,Ltd.; Pharma Eight Co.,Ltd.; Fukae Kasei Co.,Ltd.; HONKE MATSUJURA BREWERY CO.,LTD.; UNEX Corporation; and Tokushima City Medical Association, etc.
- Academia...**University of Tokushima, Tokushima Bunri University,** Kagawa University, Ehime University, Kochi University, Shiga University of Medical Science, Kumamoto University, Kyushu University, Kyoto University, Kobe University, University of Marketing and Distribution Sciences, Seoul National University, Second Military Medical University, (China), Tianjin Medical University, New York University, Hannover Medical School, National Institute on Aging (US), University of Pennsylvania, etc.
- Government...**Tokushima Prefectural Industrial Technology Center**

Vision of the Tokushima Health and Medicine Cluster

