

Hiroshima Biocluster



Hiroshima

Hiroshima Biocluster : Supporting health for tomorrow

Cluster Vision

We aim to establish a world-leading cluster in the life science area. This cluster of bio-industries, in conjunction with our proud heavy and machinery industries, will strengthen the economical activities and raise technological standards in the region, making Hiroshima one of the most important industrial areas in the world.

We conduct joint research programs with people from industry, academia, and government to develop new medical treatments and pharmaceutical products using seeds invented in academia and to develop new health care products using existing traditional local specialities. These programs promote the spin-off of venture companies and launch of new commercial products.

Project Overview

Activities of the Cluster Headquarters

As a core organization of the Hiroshima Biocluster, the headquarters has conducted various activities such as discovery of world-class research "seeds", collection of regional needs, and improvement of developed technologies.

Joint Research Programs

We have conducted joint research programs to invent new biotech "seeds" in 4 regions (see the scheme at the bottom of the next page) including "Development of recombinant protein production systems for bio pharmaceuticals using transgenic animals and insects".

Result Incubation Programs

We have also conducted result incubation programs to apply those results to patents and to accelerate commercialization in 5 regions including "Development of an automated culture apparatus for mesenchymal stem cells".

Collaboration Project with Concerned Ministries

We have promoted development of bio-related equipment by taking advantage of existing manufacturing technologies, one of Hiroshima's strengths, in close connection with the Industrial Cluster Project.

Unique Program in Hiroshima

We have offered a wide variety of technology promotion programs such as subsidies from the Hiroshima Prefectural Government.



silkworms emitting red fluorescence from eyes and spinning silk with green fluorescence



chimeric mice with liver repopulated by human hepatocytes



transgenic chicken

Project Director Shohachiro Takahashi



Shohachiro Takahashi is a former vice president of Toyo Kogyo Co., Ltd. (currently Mazda Motor Corp.) and also a former president of Delta Kogyo Co., Ltd. He is now an advisor for Mazda Motor Corp.

Towards Establishment of Hiroshima Biocluster

The five-year program of the Knowledge Cluster Initiative starting in 2002 just finished at the end of March, 2007. We have worked to create a world-leading cluster in the life sciences by fusing cutting-edge technologies with traditional ones. The former includes genetic engineering and cellular biotechnology invented by Hiroshima University and other institutions. The latter contains brewing technology from traditional industries such as sake brewing and pickle manufacturing industries.

We have been making steady progress at improving the research environment to create the cluster, launching many new business ventures, and commercializing new products through the combination of biotech and regional specialities like sake and pickles.

We are enthusiastically promoting our activities by strengthening joint research programs and supporting creation of new "seeds". We believe that Hiroshima is approaching its goal.

Cluster Headquarters

President.....Makoto Uda(Chairman, Hiroshima Prefecture Federation of Chambers of Commerce and industry)

Project Director.....Shohachiro Takahashi

Deputy Project Director...Masanobu Kamada

Science Technology Coordinators...Kichiichirou Kawana
Tetsuo Miyake

Core Organization

Hiroshima Industrial Promotion Organization

Participating Research Organizations (Bold: Core Research Organization)

Industry...Koken Co., Ltd., Meiji Seika Kaisha, Ltd., PhoenixBio Co., Ltd., ProPhoenix Co., Ltd., Sumika Chemical Analysis Service, Mitsubishi Pharma Corp., ABLE Corporation, Wakunaga Pharmaceutical Co., Ltd., Pharma Foods International Co., Shionogi&Co., Ltd., Shiseido Co., Ltd., Tsumura&Co., Nishikawa Rubber Co., Ltd., Shimizu Chemical Corporation, Tanglewood Co., Ltd., Toyo Advanced Technologies Co., Ltd., Aohata Corp., Andersen Service Co., Ltd., Nomura-milk Co., Ltd., Nekoshima Syouten Co., Ltd., Domoto Co., Ltd., Bussan NanoTech Research Institute, Inc., Two Cell Co., Ltd., etc.

Academia...**Hiroshima Univ.**: Graduate School of Science, Graduate School of Biosphere Science, Graduate School of Biomedical Science, Graduate School of Advanced Science of Matter, Graduate School of Engineering, Technology Research and Development Office, University of Toyama, Faculty of Engineering, Hiroshima Institute of Technology, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Jichi Medical School: Division of Organ Replacement Research, Center for Molecular Medicine

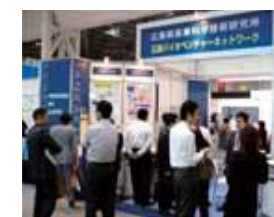
Government...**Hiroshima Prefectural Institute of Industrial Science and Technology**, Nagasaki Medical Center

Main Results

Establishment of new ventures

As fruits of the joint research programs, several venture companies have been established. (Neosilk Co., Ltd: a bio venture that uses silkworms for mass-production of recombinant proteins as a contracted service. Hiroshima Bio-Medical Co., Ltd: a venture that uses chickens to produce a broad variety of low-cost, beneficial, and useful materials for medical purposes.)

In addition, the "Hiroshima Bio Venture Network" was organized in December, 2005 to promote collaborations among bio venture companies. The activities of this network are expected to establish the Hiroshima BioCluster and to contribute to the development of regional industries.



Launch of new commercial products

Many regional companies have successfully commercialized new products through the combination of modern biotechnology, e. g. plant-derived *Lactobacillus* and regional specialties like sake, sake lees, pickles, citrus fruits etc.

We have created our own trademark for several health care products born at Hiroshima University.



Logo Mark for Health Care Products from Hiroshima University

Hiroshima Biocluster Concept(R&D and Business Venture Creation Concept)

