

Potential and Overview of Regenerative Medicine in the Kansai Region

The Japanese government has positioned regenerative medicine as one of the key market areas. In the Kansai region, leading research and industrialization efforts in regenerative medicine are being conducted at various centers, including Kyoto University's Center for iPS Cell Research and Application (CiRA), Osaka University, and Kobe University. There are products that have already been approved by the Ministry of Health, Labour and Welfare as regenerative medicine products, as well as research that is in the final stages of practical application.

For the industrialization of regenerative medicine, the creation of innovations through the participation of a wide range of players (medical practitioners, researchers in various fields such as biology, medicine, pharmacy, engineering, manufacturing contractors, and manufacturers supporting the supporting industry) is essential. Promoting interdisciplinary collaboration and industry-academia-government-finance cooperation among domestic and international medical institutions, universities and research institutions, companies, support organizations, and financial institutions can further accelerate social implementation, though it is not yet sufficient.

Kansai, located at the center of Japan and an international trade hub with Kansai International Airport and major ports in Osaka and Kobe, is the second largest economic zone in Japan after the Tokyo metropolitan area. In addition to being a compact area with a travel time of 30 minutes to an hour, encompassing Kyoto, Osaka, and Kobe, where companies and research institutions related to "medical" fields, such as Kobe Medical Industry City, are concentrated, Kansai also boasts a wide range of industrial agglomerations covering everything from upstream to downstream processes, from materials and component processing to the manufacture of cutting-edge products, with various sizes and types of companies entering the field of regenerative medicine.

Moreover, in the spring of 2024, Nakanoshima Cross, characterized by the gathering of medical institutions, companies, startups, and support organizations under one roof to transition cutting-edge future medical treatments based on regenerative medicine to the practical application and industrialization stage as soon as possible, is scheduled to open in Nakanoshima, Osaka, ahead of the rest of the country.

Furthermore, the "Osaka-Kansai Expo" in 2025 (Theme: Designing Future Society for Our Lives, Concept: Experimental Ground for Future Society) is planned, and the Osaka Healthcare Pavilion is expected to showcase the potential of Osaka/Kansai's regenerative medicine, including the exhibition of a "living heart model" using iPS cells.

Seizing this as a golden opportunity to increase exchange opportunities with regenerative medicine-related facilities in Kansai and to lead to new collaborations aimed at creating innovation is important. Kansai is now attracting more and more attention.

contact address

- 1) Kobe University Hospital, International Clinical Cancer Research Center (ICCRC)
<https://www.hosp.kobe-u.ac.jp/iccrc/global/>
- 2) INTERNATIONAL ADVANCED MEDICAL CENTER @KOBE
<https://site.awi.co.jp/ki/>
- 3) Research Base for Cell Manufacturability, TechnoArena,
 Graduate School of Engineering, Osaka University
<https://www-bio.eng.osaka-u.ac.jp/ps/kotozukuri.top.htm>
- 4) Center for iPS Cell Research and Application, Kyoto University (CiRA)
<https://www.cira.kyoto-u.ac.jp/e/index.html>
- 5) CiRA Foundation (CiRA.F)
<https://www.cira-foundation.or.jp/e/>
- 6) Nakanoshima Cross
<https://www.nakanoshima-cross.jp/>
- 7) Graduate School of Medicine, Osaka University,
 The Center of Medical Innovation and Translational Research (CoMIT)
<http://www.comit.med.osaka-u.ac.jp/en/>

Contact information

Ministry of Economy, Trade and Industry
 Kansai Bureau of Economy, Trade and Industry. (METI Kansai)
 Economic Policy Department
 Biotechnology and Medical Device Technology Promotion Division

1-5-44, Otemae, Chuo-ku, Osaka 540-8535 Japan
 Osaka Joint Government Building No. 1, 3rd Floor

Telephone: +81-6-6966-6163

Editorial Assistance:
 The New Industry Research Organization (NIRO)

Fiscal Year 2023
 Feasibility Study Project for Discovering and Organizing Regenerative
 Medicine-Related Facility Tours in the Kansai Region

Published in March 2024

Information on Regenerative Medicine-Related Facilities in the Kansai Region



Regenerative Medicine-Related Facility Map

01 Kobe University Hospital, International Clinical Cancer Research Center (ICCRC)



Photo courtesy of Kobe University Hospital,
International Clinical Cancer Research Center (ICCRC)

ICCRC is a research hospital, located in the Kobe Biomedical Innovation Cluster (KBIC), where many medical institutions and research centers collaborate. ICCRC has established the Center for Advanced Medical Engineering Research & Development (CAMED), the Bioresource Center, the Office for AI and Digital Health Promotion, and "hinotori™" Robotics Training Center to promote new medicine and research.

02 INTERNATIONAL ADVANCED MEDICAL CENTER @KOBE



Photo courtesy of
INTERNATIONAL ADVANCED
MEDICAL CENTER @KOBE

Opened in May 2019 as a research and development center for creating healthy "life" for people. It is a center for dental regenerative medicine, the development of medical devices and the creation of medical-related services from a new perspective, and efforts to realize health and longevity through medical care that is closely linked to people's daily lives.

03 Research Base for Cell Manufacturability, TechnoArena, Graduate School of Engineering, Osaka University



Photo courtesy of
Base for Cell Manufacturability, TechnoArena,
Graduate School of Engineering, Osaka University

With the new concept of 'cell manufacturability' as the cornerstone of the discipline, we are focusing on technological development in strong industry-academia collaboration ('mono-zukuri'), human resource development including recurrent education to be experts ('hito-zukuri'), and the standardization development such as guidelines and instructions for domestic regulations and international standard ('rule-zukuri'), aiming to form 'Core Japan' of think tank ('koto-zukuri') in an ecosystem.

【Hyogo Prefecture】

(Academia etc.)
Kobe University Hospital 01
International Clinical Cancer Research Center (ICCRC)
Hyogo Medical University
Konan University
University of Hyogo
Kobe Eye Center
INTERNATIONAL ADVANCED MEDICAL CENTER @KOBE 02

(Incubation facilities)
Business Support Center for Biomedical Research Activities (BMA)
Creative Lab for Innovation in Kobe (CLIK)
International Medical Plaza (IMP)
Kobe Center for Medical Innovation (KCMi)
Kobe Healthcare Industry Development Center (HI-DEC)
Kobe Hybrid Business Center (KHBC)
Kobe International Business Center (KIBC)
Kobe KIMEC Center Building
KOBE Medical Device Development Center (MEDDEC)
Shimin-Byoin-Mae Building

(Companies)
Aeras Bio Inc.
Cyto-Facto Inc.
FUJIMORI KOGYO CO.,LTD.
IDDK Co., Ltd.
HEALIOS K.K.
Hitachi Kobe Laboratory, Research & Development Group, Hitachi Ltd.
IWATANI Corporation
JCR Pharmaceuticals Co., Ltd.
Kanai Juyo Kogyo Co., Ltd.
Kaneka Corporation
Kawasaki Heavy Industries, Ltd.
MIZUTA SEISAKUSHO Inc.
NARD INSTITUTE, LTD.
NextGeM Inc.
Phicell Corporation
SINFONIA TECHNOLOGY, CO., LTD.
Sysmex corporation
Validator K.K.
Vision Care Inc.
Yaegaki Biotechnology, Inc.

【Osaka Prefecture】

(Academia)
Graduate School of Medicine, Osaka University
The Center for Advanced Medical Innovation (CoMIT) 07
Research Base for Cell Manufacturability, TechnoArena, Graduate School of Engineering, Osaka University 03
Osaka Medical and Pharmaceutical University
Osaka Metropolitan University
OSAKA DENTAL UNIVERSITY
KANSAI MEDICAL UNIVERSITY
KINDAI UNIVERSITY

(Incubation Facilities)
Nakanoshima Cross 06

【Wakayama Prefecture】

(Academia)
Wakayama Medical University

【Nara Prefecture】

(Academia)
Nara Medical University

(Companies)
KORYO CHEMICAL INDUSTRY CO., LTD.
RYOHO FREEZE SYSTEMS CO., LTD.

【Fukui Prefecture】

(Academia)
UNIVERSITY OF FUKUI

(Company)
SEIREN CO., LTD.

【Shiga Prefecture】

(Academia)
SHIGA UNIVERSITY OF MEDICAL SCIENCE
Nagahama Institute of Bio-Science and Technology
RITSUMEIKAN UNIVERSITY

(Incubation Facility)
Nagahama Bio Incubation Center (NBIC)

(Company)
Takara Bio Inc.

【Kyoto Prefecture】

(Academia)
Center for iPS Cell Research and Application, Kyoto University (CiRA) 04
CiRA Foundation (CiRA F) 05
Doshisha University
KYOTO INSTITUTE OF TECHNOLOGY
Kyoto Prefectural University of Medicine

(Incubation Facilities)
Advanced Chemical Technology Center in Kyoto (ACT Kyoto)
Creation Core Kyoto Mikuruma
Kyodai Katsura Venture Plaza
KYOTO RESEARCH PARK
INNOVATION HUB KYOTO

(Companies)
AFI Corporation
Aurion Biotech Japan
CSTEC CORPORATION
Cyfuse Biomedical K.K.
Eureka Technologies Inc.
Globe Inc.
iHeart Japan Corporation
I Peace, Ltd
KAC Co., Ltd.
KATAOKA CORPORATION
KRI Inc.
Kyoto Medical Planning Co., Ltd.
SAKIGAKE-Semiconductor Co., Ltd.
SANYO CHEMICAL INDUSTRIES, LTD.
SCREEN Holdings Co., Ltd.
Shimadzu Corporation
Stem Cell & Device Laboratory, Inc. (SCAD)
Megakaryon Corporation
MICRONIX CO., LTD.
NACALAI TESQUE, INC.
OrientalBioService, Inc.
Rebirthel Co., Ltd.
ROHTO Pharmaceutical Co., Ltd.
LINKSu Co.,Ltd
WOW DESIGN Co., Ltd.

SAITO LIFE SCIENCE PARK
Turnkey Lab KENTO

(Companies)
Bio Medica Solution Inc.
Cuorips Inc.
Earth Environmental Service Co., Ltd.
FUJIFILM Wako Pure Chemical Corporation
Hitachi Global Life Solutions, Inc.
JTEC CORPORATION
MATRIXOME Inc.
Medibo Co., Ltd.
NISSIN CORPORATION
Osaka Sanitary Co., Ltd.
Otsuka Pharmaceutical Co., Ltd.

Panasonic Production Engineering Co., Ltd.
RAYMEI Inc.
RORZE Lifescience Inc.
SANPLATEC CORPORATION
Saraya Co., Ltd.
SEIKEN CO.,LTD.
SEKISUI SEIKEI CO., LTD.
S-RACMO Co., Ltd.
StemRIM Inc.
Sumitomo Pharma Co., Ltd.
TAIYO PHARMA TECH CO., LTD.
Terumo BCT Inc.
TOYOBO Co., Ltd.
Tsubakimoto Chain Co.

04 Center for iPS Cell Research and Application, Kyoto University(CiRA)



Photo courtesy of
Center for iPS Cell Research and
Application, Kyoto University

With research using iPS cells as its mainstay, CiRA conducts basic research aimed at the spread of regenerative medicine, the realization of personalized medicine and drug discovery for intractable diseases, and the development of new life sciences and medicine. It is also making efforts to improve its research support system and research environment. In collaboration with the CiRA Foundation, which serves as a bridge linking academia and industry, the research institute also aims to further medical applications of iPS cells.

05 CiRA Foundation(CiRA F)



Photo courtesy of
CiRA Foundation

The CiRA Foundation is a public interest corporation that was founded by Kyoto University to manage some of the responsibilities previously handled by the Center for iPS Cell Research and Application (CiRA), Kyoto University. Its goal is to bring top-tier iPSC technologies at reasonable cost. It also acts as a bridge between academia and industry for the production, storage, and quality control of iPS cells.

06 Nakanoshima Cross

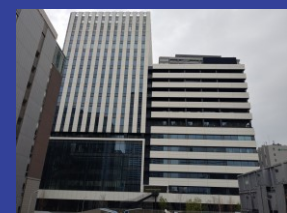


Photo courtesy of
Organization for Advanced
Healthcare Innovation

Nakanoshima Cross is a unique innovation hub for the future of healthcare, where medical facilities, enterprises, start-ups and support organizations gather in a single building. In collaboration between the tenant companies and medical care providers, we create a cycle of creation, practice and sharing of the future of healthcare. Starting with regenerative medicine, we aim to promote the industrialization of cutting-edge medicine responding to advances in medical technology, and contribute to the world by providing future medical care to both domestic and overseas patients.

07 The Center of Medical Innovation and Translational Research(CoMIT)



Photo courtesy of
The Center of Medical Innovation
and Translational Research(CoMIT))

The Center of Medical Innovation and Translational Research (CoMIT), established in April 2014, collaborates with companies and research institutions in a variety of fields based on the concept of "the development of cutting-edge medical care and promotion of open innovation that is unparalleled in the world 'under one roof' through the collaboration of industry, academia, and government institution " We are working on the research and development of new next-generation drugs and innovative medical technologies.