

Preface

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The Launch of RIKEN's Second Midterm Plan: Sustainability and Progress

“Trust”, “Sustainability” and “Leadership”

“Trust”, “Sustainability” and “Leadership” have been the principles of the RIKEN BioResource Center since its founding in 2001. For the operation of the BRC, close collaboration with the research community is essential. Advices, suggestions and evaluations by the BRC Advisory Council, comprising distinguished scientists from both inside and outside of Japan; resource committees made up of representatives of the research community; and review committees in charge of research and development activities at the BRC have been decisive factors in the operation of the BRC. We shall certainly maintain this system.

The BRC supports life science research activities in and outside Japan by collecting, preserving, and distributing important bioresources ranging from mice and the seeds, cells, and genes of *Arabidopsis thaliana*, cells and DNAs of human and animal origin, and micro-organisms. In addition, the BRC also provides information on the whereabouts and characteristics of these bioresources. Four Divisions of the BRC, Experimental Animal, Experimental Plant, Cell

Engineering and Gene Engineering have been designated national core facilities for respective bioresources by the National Bioresource Project (NBRP) of the Ministry of Education, Culture, Sports, Science and Technology Japan ever since 2002. Microbe Division has been designated a core facility for the NBRP second-term in 2007. This brings to five national core facilities within the BRC.

BRC enforces stringent quality control to maintain global standards of quality of its bioresources. In particular, BRC has acquired and continues to maintain an ISO9001 accreditation for quality management. Additionally, a backup facility of liquid nitrogen tanks has been set up with the cooperation of RIKEN's Harima Institute for risk management of preservation of invaluable bioresources in the event of earthquake or other natural disaster.

Second midterm plan

In April 2008, RIKEN commenced its second term as an Independent Administrative Institution. In the first term, RIKEN President Ryoji Noyori set forth five “Noyori Initiatives.” For the second term, President Noyori has defined “Three Pillars” of endeavors for RIKEN and its centers and institutions. The RIKEN BRC has been operated ever since its establishment by policies and principles sharing views

Noyori Initiative

1. Visibility of RIKEN
2. Maintaining RIKEN's Outstanding History of Achievement in Science and Technology
3. RIKEN that Motivates Researchers
4. RIKEN that is Useful to the World
5. RIKEN that contributes to Culture




President, RIKEN
Ryoji NOYORI, Ph.D.

with “Noyori Initiatives” and “Three Pillars.” In addition to adhering to President Noyori’s Initiatives and Three Pillars, BRC is augmenting these policies with a number of its own original plans and undertakings.

One of the first things RIKEN did at the start of its second term was to reorganize its overall institutional structure so that its research activities are now consolidated around the three focal points; new advanced fields of scientific endeavor carried out by the Advanced Science Institute which was created out of the merger of the Discovery Research Institute and the Frontier Research System; strategic research that

will benefit society by RIKEN’s cluster of life science research centers; and cutting-edge research infrastructure by the BRC and the Nishina Center of Accelerator-Based Science, SPring-8 and others. This reclassification has given BRC a better focus on its mission and purpose than it had in RIKEN’s first term when the BRC was classified as one of RIKEN’s life science centers. The most important outcome of the reorganization for the BRC in the second term is that the mouse mutagenesis project that had been under the Genomics Sciences Center (GSC) at the Yokohama Institute was brought into BRC after dissolution of the GSC. The addition of this mutagenesis project to BRC’s activities would profoundly

Three Pillars of the Second Mid-Term Plan

- A RIKEN that makes dramatic advances in science and technology
- A RIKEN that contributes to society and that is trusted by society
- A RIKEN that has a globally-recognized brand image





RIKEN Executive Director (Formerly Director of RIKEN Tsukuba Institute)
Shin OHKOUCHI

affect our operations, and we decided to integrate it more fully into the BRC after we consulted the BRC Advisory Council and the BRC’s resource committees for the advice and comments.

Reorganization and the Enhancement of Research Capabilities of the BRC

Strengthening its research capabilities of the BRC to better fulfill its principles of Trust and Leadership has been desired for some time. Even before the opening of the BRC, the committee preparing for the launch of the BRC stated in an August 2000 report, “There is a need for the BRC to consider close collaboration with the chemical mutagenesis project that produces large numbers of mouse strains.” Likewise in a December 2000 report issued by the Life Science Section of

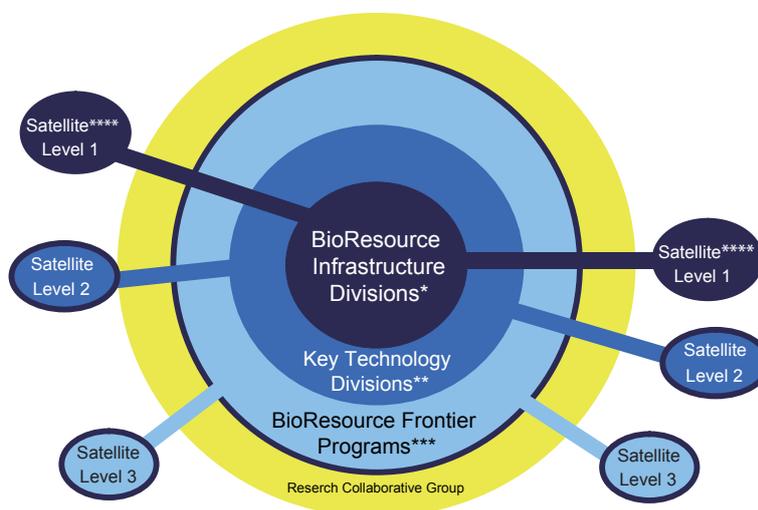
what was then the Science and Technology Agency, under a titled, “The Future of the RIKEN Tsukuba Institute,” it was noted, “by adding the mutagenesis project to the activities of BioResource Center, this institute will become even more specialized in bioresources and will achieve a level of functionality that is unprecedented within Japan.” Clearly, the integration that has recently taken place is a realization of something that has long been desired by the research community and the Japanese government. The process took several years, but with the transfer of the GSC mutagenesis project to the BRC, we now have the human and financial resources needed to significantly increase our research and development capabilities.

As the BRC strengthens its research and development capabilities, however, we must make sure that we do not deviate from our original mission as a bioresource center. To ensure this, we have built a three-tiered system to include Key Technology Divisions and the Bioresource Frontier Programs supporting the core activity of collecting, preserving, and distributing important bioresources. Additionally, we have positioned outside groups working on research and development within the Tsukuba Institute as “collaborating research groups.” Another undertaking we are planning is to set up BRC satellites outside of RIKEN to improve our bioresource services and to make better use of potential resources at universities and research organizations.

BRC’s Mission

- * Bioresource infrastructure facilities (Collection, Preservation, Distribution)
- ** They develop the fundamental technology for operation of the facility.
- *** They add value to the bioresources under management (information on characteristics, quality control technology, etc.) and develop new resources enhancing our roles as a resource infrastructure facility and a technology development facility with a cross-divisional, unified structure.
- **** A structure which can use the potential of external (satellite) sites.

The BioResource Center’s activities is divided into three levels. The core is the provision of resources. It is also involved in developing the underlying technology, and a bioresource-related research program.



Expectations for the New Teams and a Unit

The mouse mutagenesis project reorganized to three independent teams and one unit working as a part of the Bioresource Frontier Programs. During RIKEN's second term, expectations are high that as a part of BRC, these teams and an unit will make significant progress in establishing an advanced infrastructure, particularly for mouse resources. Furthermore, detailed reviews and adjustments will be made as we work together and merge various similar activities undertaken by the former GSC and BRC, such as phenotype analysis and database building.

Technology Transfer, Training and Education

As a part of its effort to disseminate its knowhow in bioresources, BRC has been regularly offering technology training courses to transfer on the high level of technology required in the handling and use of bioresources. The courses are limited to a few, selected applicants not only from academic institutions but also from industry. BRC also accepts long-term trainees from China and Taiwan. In addition to fulfilling the original purpose of technology transfer, these workshops have been especially useful in forming friendly ties with persons and groups outside of RIKEN. BRC will continue these training courses and expand them to encompass other research needs, such as for technical training related to the handling of human embryonic stem cells.

International Collaboration

With the recent dramatic advances in the life sciences, there has been a rapid expansion in the types and quantities of bioresources that need to be created and supplied. It is no longer possible for just one institution in one country to meet these needs. A system of international cooperation is required, and BRC is already involved in a number of collaborations with overseas institutions to share the burden and divide up responsibilities. For example, BRC is one of 17 founding institutions establishing the Federation of International Mouse Resources (FIMRe) that are cooperating in the creation of a "one-stop-shop" database. Under the FIMRe, BRC has entered into a bilateral agreement with a number of other member institutions that sets guidelines for the shipment of frozen mouse embryos to facilitate recovery techniques and aid researchers who do not have access to the required facilities. The BRC Director is currently serving as one of

the vice-chairpersons of the FIMRe board of directors. Two FIMRe meetings have been held in Japan, the fourth meeting in Tsukuba, and the fifth meeting in Kyoto in November 2007 and both were hosted by the BRC. BRC has taken the initiative in similar international collaborations for *Arabidopsis thaliana*, human and animal cell lines, and microorganisms, as well as in undertakings to establish and maintain international standards for bioresources and databases.

BRC is also working to raise the standards in Asia and is building an Asian network with related institutions in the region. We have bilateral agreements with related institutions in Taiwan, China, and Korea, and are involved in the exchange of scientists and technicians, technologies, and information with these institutions. BRC is also providing the above-mentioned technology training courses as a part of these agreements. As a part of our efforts, we have begun building an Asian resource network and launched the Asian Mouse Mutagenesis Resource Association in 2006. Likewise, we are involved in close micro organism exchanges with the countries of Southeast Asia, and are forming new ties with institutions in China and Korea where there is a burgeoning build up for bioresources.

Public Relations

The BRC exists to serve depositors and users of bioresources. Additionally, to fulfill our principle of Leadership, BRC must maintain a firm grasp of the "seeds" and "needs" of the research community. To this end, BRC takes active part in academic meetings and symposiums by setting up panel exhibits and booths to make our activities known among as many researchers as possible and to encourage them to make use of our resources and services. BRC booths and displays of actual bioresources have proved especially effective in gaining new depositors and users.

As a publicly supported institution, BRC must secure the understanding and support of the general public as well as of the research community. We have a responsibility to explain our activities to the general public, and have made efforts to do so through Open Days, when the Tsukuba Institute is opened to the general public, and through special information meetings for local residents. BRC is also working to attract young people to the sciences with programs like

our summer science program for elementary school children, and by accepting study tours of junior and senior high school students. We will be continuing and expanding on these kinds of public relations activities.

Evaluations

BRC is Japan's core bioresource facility and bears major responsibility for Japan's scientific infrastructure and bioresource strategies under Japan's third Basic Plan for Science and Technology and the Strategic Plans for Scientific Infrastructure. Given the high expectations in this regard, BRC must undertake strict self-evaluation, must be receptive to outside evaluations of its activities, and must always work to improve and progress. In this regard, BRC is most grateful for the constructive evaluations and suggestions made by the Japanese government's Council for Science and Technology Policy, the RIKEN working group of the government committee charged with evaluating the Independent Administrative Institutions, and the NBRP external evaluating committee, as well as our own advisory bodies including the BRC Advisory Council, the BRC resource committees, and the BRC review committee. The specific advices and recommendations received from these groups are outlined in a later chapter. BRC will make every effort to ensure that these invaluable advices and recommendations are incorporated into our future activities.

We would like to note that at the end of RIKEN's first term five-year plan, BRC was awarded the highest overall rating of "S" by the government committee charged with evaluating the Independent Administrative Institutions. For each of the first four years, BRC was given an "A," and for the last year, FY 2007, BRC was awarded an "S" rating for its collection and distribution of such iPS cells. It is very satisfying to have our efforts recognized in this way. BRC was given an "S" overall rating, even though we actually received an "S" rating only in our last year, because the committee members recognized that our activities must be carried through the long-term before bearing fruit. We like to think that these high ratings reflect the recognition of BRC's contributions to the advancement of life science within Japan, and by extension, to the sustainable advancement of humanity as a whole. Still, there are many remaining points on which specific recommendations were made, and everyone at BRC, researchers and administrative

staff, will need to work hard to fulfill these expectations.

Since its inception, BRC has enjoyed extensive support from the research communities within and outside Japan, from MEXT, and from RIKEN headquarters. We are now on the verge of being recognized as one of the leading bioresources centers in the world. We ask for your understanding and continued support as we work to become the core facility of Japan's scientific infrastructure for the life sciences and to grow into a center deserving of respect and praise.