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BioResource now! Vo2.No.5 is here

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Download the PDF version of this newsletter at
<http://www.shigen.nig.ac.jp/shigen/news/news.jsp>

Other information on bioresources is available at
 NBRP (<http://www.nbrp.jp/index.jsp>)
 SHIGEN (<http://www.shigen.nig.ac.jp/indexja.htm>)
 WGR (<http://shigen.lab.nig.ac.jp/wgr/>)
 JGR (<http://shigen.lab.nig.ac.jp/wgr/jgr/jgrUrlList.jsp>)

Information on Resource-related Events

- June 18-23, 2006
 20th International Congress of Biochemistry and Molecular Biology and
 11th Federation of Asian and Oceanian Biochemists and Molecular
 Biologists (FAOBMB) Congress at Kyoto International Conference Hall
 "NBRP poster exhibition" from the 19th to the 23rd.
 Website : <http://www.congre.co.jp/iubmb/index.html>
 Oct. 28 (Sat) 9:00-11:00
- Progress in Fertilization Techniques of Rats at TERRSA Hall at Kyoto
 TERRSA (Kyoto Citizen's Amenity Plaza, Shinmachi Kujo Minami-ku,
 Kyoto, Japan)

Detailed information is available at <http://www.nbrp.jp/index.jsp>

Introduction to Resource Center No. 9

Yeast Genetic Resource Center (YGRC): Collection, Preservation, and Provision of Yeast Resources to Support Fundamental Researches

National BioResource Project Yeast
 Primary resource center : Chikashi Shimoda,
 (Special Professor, Graduate School of Science, Osaka City University)
 Secondary resource center: Yoshinobu Kaneko
 (Associate Professor, Graduate School of Engineering, Osaka University)

Please refer to the Yeast Genetic Resource Center website at

Yeast Genetic Resource Center (YGRC)
<http://yeast.lab.nig.ac.jp/nig/>

Resources provided by the Yeast Genetic Resource Center

- 1) Strains for genetic researches
(approx. 20,000 strains)
- 2) DNA clones (approx. 4,000 clones)
- 3) Vector plasmids for cloning
- 4) Variety of DNA libraries



Fig.1: The NBRP/YGRC website

[1] Why yeast?

As a useful microorganism that is easily accessible to humans, yeast has a long history of being utilized as the basis of breeding for genetic research. Since various experimental methods including recombinant DNA techniques can be applied relatively conveniently in yeast, it has been used frequently as one of the most practical experimental organisms. The importance of yeast as a eukaryotic model organism is undeniable. The yeast genome project was initiated at an early stage, and among the eukaryotes, the entire base sequence of yeast was the first to be completed. In addition, numerous post-genome researches have been conducted based on the information published on the genome. For now, the importance of yeast research will be constant.



Fission Yeast



Budding Yeast

Fig. 2 : Images of fission yeast and budding yeast under light microscope with differential interference contrast (DIC).

[2] YGRC has been expanding the project with high expectations from the yeast research community.

Together with the advancement of yeast researches, there has been an extensive accumulation of genetic resources of yeast (yeast resources). In order to preserve and efficiently utilize these resources, a resource center is absolutely necessary. The current domestic researches on yeast are widely and internationally acknowledged. YGRC was set up in 2002 with the support of the National BioResource Project (NBRP) as an answer to the calls from domestic yeast researchers—"resource center requested!". The collection of yeast resources is progressing smoothly with the cooperation of numerous yeast research groups. Moreover, the number of resource requests has increased and more than 900 resources were distributed in the last fiscal year.

[3] YGRC is a resource center with the following features.

Yeast can generally be divided into practical yeast and laboratory yeast. YGRC focuses on two types of laboratory yeast used in genetic research, fission yeast (*Schizosaccharomyces pombe*) and budding yeast (*Saccharomyces cerevisiae*), which are managed by the primary resource center (Osaka City University) and the secondary resource center (Osaka University), respectively.

Our motto is "the resource center for the researchers by the researchers." Therefore, the center is operated by the researchers themselves. Moreover, a steering committee for yeast research in Japan which is comprised of members from major laboratories has been established and is in operation. Opinions from researchers are reflected on the operation of the center via the committee members. We maintain a close relationship with the yeast research community and intend to develop a resource center that is useful for future research on yeast.



Fig. 3 : Fluorescent microscopy images of fission yeast.
 Green: Cell Membrane, Red: Spindle Polar Body (SPB),
 Blue: Nuclear DNA

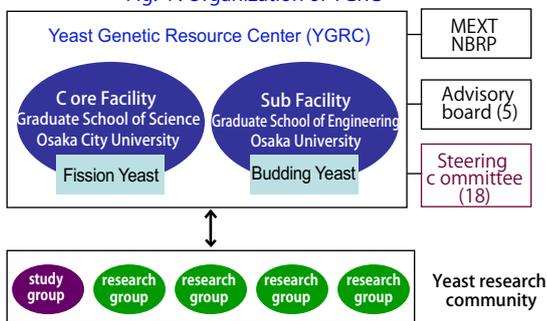
[4] Yeast resources that YGRC maintains and provides.

Fairly extensive collections of genetic resources including yeast strains, plasmids, and gene libraries have been accumulated through continuous efforts over the last four years.

Even from a global viewpoint, a large scale resource center for fission yeast does not exist. The genetic resources of fission yeast at YGRC are currently the world's largest collection. Our collection of yeast strains are replete with the collection of mutant strains related to sexual reproduction, mitotic division, or the cell cycle. In addition, the yeast genome, cDNA library, and GFP-fusion library are of high quality and repute. The full-length cDNA library that was prepared by the NBRP genome analysis project in the fiscal year 2005 has been sequenced, and the identification process of each clone has been progressing rapidly. "The full-length cDNA clone sets with gene annotations" are extremely precious resources that are currently unavailable anywhere else in the world, and the entire operation has been speeded up so that it could be released and made available in the coming fall.

On the other hand, in the case of the budding yeast, numerous strains and plasmids have been collected with the help from major research laboratories in the country. In particular, the single- and the double-gene mutant sets of protein dephosphorylating enzymes that cover the entire genome are a resource unique to the world. These are also available as a set.

Fig. 4 : Organization of YGRC



[6] YGRC continuous endeavors to be an everlasting resource center.

YGRC has furthered the project with support from the NBRP and has been taking important steps to support fundamental yeast researches. Our first priority is to achieve the goal of NBRP—"the consolidation of top-level resources in the world by 2010" and we are building a system to continuously function as an efficient resource center for researchers. Moreover, concurrent with the initiation of the collection of international yeast resources, there will be an active participation in the international information network of yeast. "From national to international" will be our new motto.



Hot news from abroad No. 11

FIMRe

(Federation of International Mouse Resources)

The 4th FIMRe meeting was held on 22-23 May at RIKEN BioResource Center. The facilitator of the meeting was RIKEN BRC Director Dr. Yuichi Obata. As a result of the discussions conducted during the last three meetings and an audio conference with the vice chairpersons, we came to an agreement on the Memorandum of Understanding (MOU). During the meeting, each member institute presented their activity reports and there were also reports from the Operation Supercommittee and committees concerned with the material transfer agreement (MTA) and Health Standard. The addition of the introductory session on resources available in Asian institutes was especially noteworthy. Four persons from China and one person each from Korea, Taiwan, and Singapore reported on current research events. Centered in China, the consolidation of mouse resources seems to have been conducted at a rapid rate.



Conference hall

The details of the conference will be posted on the RIKEN RBC website later. Furthermore, articles related to FIMRe are also available on "BioResource now!" Vol. 1-5. More than 50 people including observers participated in the meeting; about half of them are from abroad. I would say that the first meeting held in Japan was a huge success. I wish to express my appreciation to the hosts of the conference at RIKEN BRC.



RIKEN BioResource Center

[5] Yeast resources at YGRC are available on the website.

All the yeast resources maintained at YGRC are registered with a database on the YGRC website. The yeast strains can be searched by their strain names or genotypes. In addition, yeast plasmids can also be searched by their inserted gene names, selection markers for plasmids, or plasmid types. Although presently incomplete, the literature information and plasmid maps are also accessible from the site.

Required resources can be ordered from the search result page by clicking the "order button" to put it in a cart and providing shipping information and other details. Essentially, the site functions in a manner that is similar to Internet shopping. After the completion of the online request for the order, the resource will be delivered in approximately a week.

Thanks to the depositors, most resources can be ordered without any prior authorization from the depositors if they are used for academic research purposes.

Fig. 5 : Screen of searching and requesting for order

Check	NBRP ID	Strain name	Genotype	Phenotype	Source	Reference	Distribution terms	LMO	Request
<input type="checkbox"/>	E15112	KAG2	Y-142 ade6 ⁻ ura1	spo	RIKEN BRC, Osaka City University, Japan				order
<input type="checkbox"/>	E15116	KAG	Y-KAG ade6 ⁻ ura1	spo	RIKEN BRC, Osaka City University, Japan				order
<input type="checkbox"/>	E15187	OSD	Y-142/ade6 ⁻ ura1	spo	RIKEN BRC, Osaka City University, Japan				order

FIMRe Homepage
<http://www.fimre.org/>



IMSR
<http://www.informatics.jax.org/imsr/>

Announcement of the Next Issue

Special edition on KOMUGI!

Editor's Note: I suppose it is actually not widely known that the resource collection of yeast at NBRP is the world's largest. This year, we intend to reinforce our goal of international information transmission and thus reiterate that our center would like to collaborate with ongoing research efforts of fellow international researchers studying yeast. The appealing article was contributed by Dr. Shimoda despite his busy schedule. We would like to express our sincere gratitude to him. (Y.Y.)

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