How to deposit materials in the Fungal Genetics Stock Center (FGSC)
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Background

At the inception of FGSC in 1960, Raymond Barratt, the first director, gathered Neurospora strains from major laboratories. Primary sources were Stanford and Yale Universities, California Institute of Technology, and the New York Botanical Garden. Requests for specific stocks were sometimes made as the collection grew, but most new acquisitions were donated by individual researchers on their own initiative. Motives for donating stocks may have been either altruistic or selfish. Depositing strains in FGSC ensured their preservation and survival, made them freely available to the community, and relieved the donor of needing to fill stock requests. Listing by FGSC made availability of the stocks known and avoided possible hesitation by potential users to request strains from the original source.

In its 45 years of service, FGSC has acquired over 14,000 Neurospora strains. Cloning-vectors and genomic and cDNA libraries have been added to its holdings. In the years immediately ahead, FGSC will be the repository for as many as 5,000 new knockout strains produced under an NIH sponsored Program Project Grant entitled "Functional Analysis of a Model Filamentous Fungus". (The knockouts will include genes that have no recognized orthologs in other genome-sequenced organisms.)

The question might be asked, will there be need any longer for individual researchers to make deposits? The answer is clearly 'yes'. Knockouts that are obtained by individual investigators will continue to be useful, as will cultures that provide new genetic or biochemical information. Even when the Program Project Grant has reached its target, thousands of open reading frames will remain to be defined. Multiple alleles, conditional mutants, and suppressors will continue to be of interest. Mutations at single loci make up only part of the collection. FGSC will also be called on to add chromosome rearrangements and multiply marked strains that were designed for special purposes. Field-collected strains will be deposited that sample naturally occurring genetic variation and that provide information for population, ecological, and evolutionary studies, including species recognition and the construction of evolutionary trees.

For background information on FGSC and its activities, see *How to obtain stocks for research and teaching*. The FGSC is not a repository for patented strains.

Normally, FGSC will not hold strains unless they are to be made freely available. However, provisions have been made for distribution to be restricted temporarily under special circumstances. The following statement is from Fungal Genetics Newsletter 40:10 (1993):

FGSC POLICY ON RESTRICTION OF STOCK DISTRIBUTION

Investigators have both a scientific and an ethical obligation to make available to others biological materials on which the investigator has published, at least so the original observations may be independently verified. Nevertheless, competitive pressures have sometimes led investigators to restrict distribution of new materials to those persons with whom they can reach understandings about future research. Restricted distribution, however, ultimately retards progress in research, and up to now, all stocks at FGSC have been freely available.

While FGSC seeks to maintain a collection of fungal stocks that represents the published work in the field, FGSC often obtains stocks years after they originate, or only with great difficulty, because the originator does not want them generally distributed. In some cases, significant stocks have been lost through neglect by the original investigator.

Because one of the aims of FGSC is to assure the preservation (and ultimate availability) of key stocks, it wishes to encourage stock deposits from investigators, even if distribution is occasionally restricted for a time. As a publicly

funded entity, FGSC cannot endorse the principle of restriction, except in cases where it encourages deposit of key stocks. In such cases, FGSC will serve as a safe deposit and will negotiate an interval with investigators in which stocks will not be released. The interval will not exceed one year after publication of results on the stocks. During this interval, the stocks will not be listed in the catalogue, and any request for the stocks will be referred to their originator. At the end of the interval, the stocks will be listed and will be available to all. This policy may actually hasten the process by which stocks become generally available after publication. FGSC will make every effort to dissuade depositors from restricting distribution, and it is hoped that requests to do so will be few. We hope this policy will help the Stock Center to achieve the goal of obtaining important stocks soon after publication and before being lost. The practice of regular stock deposition, together with respect for the scientific interests of investigators who originate or who need unique biological material, will benefit research efforts of the fungal genetics community.

Procedure

Before sending materials to FGSC it would be well to provide the Stock Center with a description of the strains or clones that are proposed for deposit, to confirm their suitability:

Fungal Genetics Stock Center
Cell Biology and Biophysics
University of Missouri, Kansas City
5007 Rockhill Road
Kansas City, MO 64110

Phone (816) 234-6485
FAX (816) 235-6561
e-mail: questions@FGSC.net
Home page: www.fgsc.net

In choosing names and symbols for new mutants, consult nomenclature recommendations (Perkins 1999), usage in the latest FGSC Catalog, which provides information on current holdings, and usage by the Leads Gene List /e-Compendium http://www.bioinf.leeds.ac.uk/~gen6ar/newgenelist/genes/gene_list.htm.

Each item sent to FGSC should be accompanied by a deposit sheet. Reprints or PDFs of publications describing the strain or plasmid should also be provided, if available. Printable forms for depositing strains or plasmids can be downloaded from the FGSC web site http://www.fgsc.net. The deposit sheets are largely self-explanatory. Allele (isolation) numbers should be provided for each mutant gene, together with information about the origin and characteristics of the strain. On acceptance, the stock center will give each strain a unique acquisition number ('FGSC number'). Care should be taken not to confuse FGSC numbers with allele numbers.

Shipment is best made in small (10 × 75 mm) slants, sent by first class airmail (from abroad) or courier (especially within the United States, where mail packets may be irradiated). Alternatively, conidia may be streaked on a filter paper strip in a small (45 × 74 mm) sterilized glassine envelope and mailed in a letter envelope (for details, see *How to sample natural populations*).

References

Fungal Genetics Stock Center. 1993. FGSC policy on restriction of stock distribution. Fungal Genet. Newslett. 40: 10.

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Perkins, D.D. 1999. Neurospora genetic nomenclature. Fungal Genet. Newslett. 4 34-41. (Reprinted as Appendices in Davis, R. H. 2000. *Neurospora: Contributions of a Model Organism.* Oxford University Press, and Perkins, D. D., A. Radford, and M. S. Sachs 2001. *The Neurospora Compendium: Chromosomal Loci.* Academic Press.).

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