

# Center for Veterinary Resources

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The Department of Veterinary Resources provides services and facilities to the life science faculties. The department has a staff of 55. Its activities include breeding and maintenance of laboratory animals and the operation of specialized facilities.

The use of laboratory animals is made in accordance with the "Protection of Animals" law of 1994 and the Guide for the Care and Use of Laboratory Animals, National Research Council, 1996. A special committee appointed by the President of the Institute is in charge of approval of experiments on animals in the Institute. This Committee (Institutional Animal Care and Use Committee, IACUC) operates under the supervision of the Council for Experiments on Animals under the jurisdiction of the Ministry of Health. Experiments with animals are approved only if they are beneficial for the health of man and animals, the welfare of human society and the progress of knowledge. The smallest number of animals necessary for receiving relevant results is used. Alternate methods not involving experimental animals must be considered each time.

## Specialized Facilities

1. The Diagnostic and Quality Control Laboratory: More than 3,000 diagnostic necropsies of sentinel animals were performed in 2001, including viral, bacteriologic, parasitologic, histopathologic, and clinico-pathologic examinations. Quality Control operations comprise sterility testing of animal food and M.A.P. tests for contamination of biological materials and tissue culture.

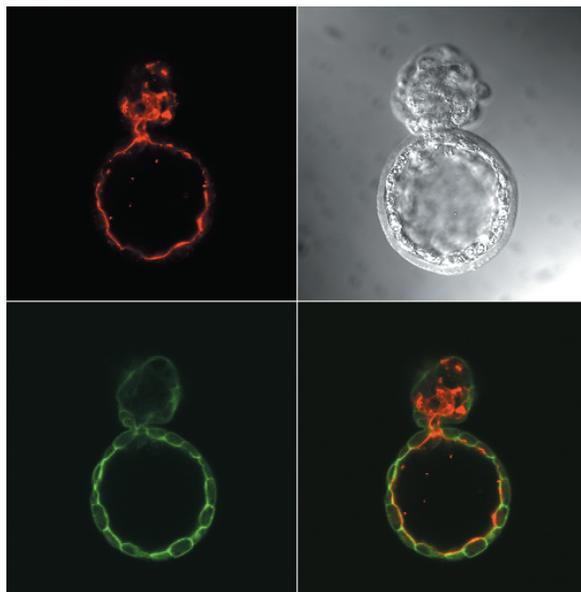
2. The Isolation and Sterile-Animal Unit (axenic animals): 35 new pathogen-free strains were introduced into the breeding unit in 2001.

3. Facility for Genetically Modified Animals: This facility is one of a small number of similar facilities worldwide, dedicated exclusively to the production and phenotypic analysis of genetically modified mice. The Embryonic Stem (ES) Cell Laboratory, provides cell lines, tissue culture facilities and expertise to train and assist students in the production of targeted cell stem clones. In the Transgenic and Knockout Mice Production Laboratory, pronuclear injection, embryo aggregations and transfers and other microsurgical techniques required for the production of mutant animals are performed. In 2001, 53 transgenic founder mice and 151 mice chimeric

for targeted mutations were produced. The laboratory also carries out embryo-freezing. To date, 20 strains of mice have been frozen. Experimental mice are kept in state-of-the-art individually ventilated cages, which are fully computerized and provide optimal environmental conditions. Facilities for phenotypic analysis of resulting mutant mice include the Histology Laboratory, which provides tissue sections from paraffin- and plastic-embedded material stained by routine and special stains for pathological evaluation. More than 5,000 sections were prepared in 2001. Morphologic studies involving immunohistochemistry and in situ hybridization on whole mount, paraffin-embedded material and cryostat sections by brightfield, fluorescent, and confocal microscopy are also provided.

## Acknowledgments

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**Fig. 1** Hatching mouse blastocyst 4.5 days post fertilization, stained for structural (actin; green), and basement membrane (collagen; red) proteins.