

BIOMEDICAL RESEARCH

NIH FUNDS LIBRARY OF GENETICALLY MODIFIED MICE

In September, the National Institutes of Health awarded a five-year cooperative agreement worth \$23 million to a consortium of UC Davis researchers; the Children's Hospital Oakland Research Institute; and the Wellcome Trust Sanger Institute, England.

The group plans to create lines of embryonic mouse stem cells in which 5,000 individual genes will be systematically turned off, or "knocked out."



The knockout mice help scientists study the function of specific genes and produce models of cancer, obesity, diabetes, heart disease and other conditions.

The funding followed a July announcement that the NIH awarded \$800,000 to UC Davis and the University of Missouri to acquire, store and distribute genetically modified mice.

The UC Davis repository currently contains 13,000 strains of laboratory mice—more than any other facility in the United States. Making genetically altered mice available saves time and money for individual scientists.

Kent Lloyd, director of the UC Davis Mouse Biology Program established in 1997, predicts, "Within five years, through this and related projects around the world, scientists will have access to knockouts of all 20,000 genes of the mouse genome."

About 10,000 mouse genes are of particular value in human health research.



Gregory Lanzaro, director of the UC Mosquito Research Program, UC Malaria Research and Control Group, Vector Genetics Lab and Center for Vectorborne Diseases in the School of Veterinary Medicine, searches for mosquitoes in a Mali home.

VECTORBORNE DISEASE

MOSQUITO EXPERTS DECLARE WAR ON MALARIA

Malaria, one of the world's oldest and deadliest diseases, kills 1.5 to 2.5 million people a year, with 90 percent of the deaths occurring among children under the age of 5 in sub-Saharan Africa, says Gregory Lanzaro, director of the Center for Vectorborne Diseases.

Dr. Lanzaro notes that malaria is on the rise in Africa, in part due to insecticide and drug resistance. He says a new coalition of University of California scientists and state mosquito abatement experts promises "a war on malaria like no other."

The University of California Malaria Research and Control Group (MRCG) will battle malaria on three fronts: mosquito abatement, applied research to improve existing mosquito control strategies, and basic research aimed at developing methods to control malarial vectors.

In 2005 Dr. Lanzaro's research team received federal funding for five years to train scientists in the West African country of Mali on strategies to combat malaria. The mosquito group now seeks funding to continue the mission.

Their plan ranges from developing successful vector control programs in Africa to genetically modifying *Anopheles gambiae* mosquitoes to render them ineffective in transmitting the protozoan parasite that causes malaria. The plan covers biological control, insecticide resistance monitoring and management, epidemiology, and surveillance of the disease and mosquito abundance.

Dr. Lanzaro represented the UC MRCG at the December 14 White House Summit on Malaria.



Sanctuary Tiger Receives Care

Veterinary Medical Teaching Hospital surgeons, staff, faculty zoo veterinarian Scott Larsen and faculty anesthesiologist Eugene Steffey (left), prep Ravi, a 500-pound male tiger, for surgical removal of a chronically infected toe. Ravi, who resides at the Performing Animal Welfare Society, recovered well from the surgery.

A camera crew filmed the scene last October for a wildlife television series about the society, whose veterinarian, Jackie Gai, is a 2001 School of Veterinary Medicine graduate.