

GENERAL INFORMATION ON WORKING WITH ANIMALS IN RESEARCH AT UC IRVINE

UC Irvine Statement on the Use of Animals in Research and Testing

Animal research results in advances in medical science and biology. The role of animals is critical for novel discoveries about the fundamental processes of life, major contributions to developing new treatments for injury and disease, and training tomorrow's doctors. The University of California, Irvine believes that the use of animals in research and education is a privilege and consequently, animal research is conducted with proper care and humane treatment. Good animal care and good science go hand-in-hand.

The university fully supports research and teaching faculty in the biological and health sciences who conduct research using animals. The university also recognizes an increasing responsibility to inform the public of the critical need for research and education using animals and the monumental efforts undertaken to conduct this research in humane and responsible manner.

UC Irvine shares the public's concern for the welfare of laboratory animals and our researchers who study animals have a number of obligations toward the animals and public they ultimately serve. UC Irvine believes that the responsible and humane treatment of laboratory animals is essential, and holds a strong commitment to minimizing animal distress and reducing the number of animals used. UC Irvine researchers are obligated to ensure the health and well being of all animals in their care in strict adherence to regulatory guidelines and humane principles, to see that animals are used for productive and meaningful studies, and to provide public access to research results.

These guidelines include the quest for possible alternatives to using animals in research and teaching, and UC Irvine actively supports the development and use of non-animal based research and testing models whenever possible. UC Irvine ascribes to the concept of the "Three Rs" of research – refinement, reduction and replacement. When reviewing research protocols involving animals, UC Irvine evaluates the efficacy of replacing conscious animals with insentient material, such as tissues and cells; reducing the number of animals involved in obtaining information or thoroughly training future physicians and scientists; and refining protocols to minimize the incidence or impact of procedures involving animals that are used.

Research programs at all University of California campuses, including UC Irvine, are regulated by two federal agencies: the U.S. Public Health Service and U.S. Department of Agriculture. Research proposals undergo rigorous review by the campus's Institutional Animal Care and Use Committee (IACUC), as required by both the Animal Welfare Act and the Public Health Service Policy, which set standards for cleanliness and use, including veterinary care and the use of painkillers for research animals. The USDA conducts unannounced visits to all registered research facilities at least once a year. And the UC systemwide policy on Animal Use Protocols, set forth in 1984, reiterates the university's firm adherence to all animal research regulations.

UC Irvine also is accredited by the Association for the Assessment and Accreditation of Laboratory Animal Care International, an independent, non-profit organization that inspects and evaluates animal research programs and facilities to ensure conformity to the National Research Council's "Guide for the Care and Use of Laboratory Animals."

The use of animals in biological and health sciences research remains essential to discovering the causes, diagnoses and treatment of disease and suffering in humans and in animals. UC Irvine will continue to advance biomedical knowledge while strictly observing the laws that regulate this important work, ensure that animals are treated humanely, and support the concept of refinement, reduction, and replacement.

Facts about the use of animals on UC Irvine

- 98 percent of the laboratory animals on the UC Irvine campus are rodents.
- There are no dogs or primates housed at UCI for research or teaching.
- UCI purchases research animals only from vendors classified by the USDA as Class A vendors, which means that the animals are specifically bred and raised for use in research.
- When reviewing research protocols, the UC Irvine Institutional Animal Care and Use Committee (IACUC) closely evaluates whether the number of animals used can be reduced by replacing live animals with cells or tissue culture. Research protocols are scrutinized to ensure that animals receive treatment to alleviate pain.
- UC Irvine has a staff of three veterinarians trained in laboratory animal medicine, who oversee the animal care program, offer training and guidance to researchers on humane treatment of animals, and provide veterinary care to the animals.
- Animal research programs are regulated by the U.S. Public Health Service and the U.S. Department of Agriculture (USDA). A USDA veterinarian inspects the UCI animal facilities and the documentation pertaining to animal research and animal care at least once a year in an unannounced visit.
- UC Irvine is fully accredited by the Association for the Assessment and Accreditation of Laboratory Animal Care International (AAALAC), a private, nonprofit organization that promotes the humane treatment of animals in science through voluntary accreditation and assessment programs. AAALAC conducts a thorough review and inspection of the UCI animal care program and research activities every three years.

List of Medical Advances made at UC Irvine with the Help of Animal Research

Campus research has led breakthroughs in research leading to the treatment of:

- **Alzheimer's disease:** Mice specially bred to develop the plaques and tangles in the brain that characterize Alzheimer's provide researchers with a crucial "living laboratory" of the disease. These mice are making a huge impact on work here as well as Alzheimer's research around the world.
- **Spinal cord injury:** Embryonic stem cells enticed to differentiate into early-stage oligodendrocyte cells were injected into rats that had experienced a partial injury to the spinal cord that impairs movement. Within two months, these rats showed significant improvements in motion and neuron repair.
- **Cancer:** A study using human cancer cells in mice helped explain the puzzling increases in certain chemicals seen in tumor cells, offering hope for increased survival rates from pancreatic cancer, currently one of the world's deadliest.
- **Heart disease:** A study using female mice identified how estrogen helps prevent a cardiac ailment often seen in women who have heart attacks. This research provides further evidence that hormone replacement therapy after menopause can help prevent certain forms of cardiovascular disease in women.
- **Hypertension:** In tests on rats, researchers found that high blood pressure can be induced—and brought back to normal—by changing levels of free radicals and nitric oxide, which currently is being studied for its role in cardiovascular disease and other functions in the body.
- **Arthritis:** In another set of tests using rats, a sea anemone venom compound stopped the progression of the rheumatoid arthritis and improved joint function.
- **Diabetes:** In tests on rats, researchers found that boosting insulin with vitamins C and E may improve the drug's effectiveness for treating diabetes.
- **Obesity:** In tests on mice, researchers have identified how a natural fat compound works to tell the body to stop eating – a discovery that may be the basis for a new class of drugs targeting obesity and other eating disorders.