

Animal Research Saves Lives

The Federation of American Societies for Experimental Biology (FASEB) affirms the essential contribution of animals in research aimed at improving the health of both humans and animals. The role of animals remains critical in understanding the fundamental processes of life and in developing treatments for injury and disease.

ANIMAL RESEARCH HELPS PEOPLE AND HAS RESULTED IN:

Vaccines for:

Hepatitis A/B
Influenza
Whooping cough
Pneumococcal pneumonia
HPV/Cervical cancer
Smallpox
Tetanus
Polio
Meningitis



Therapies for:

Diabetes
High blood pressure
Parkinson's Disease
Alzheimer's Disease
HIV/AIDS
Heart attack
Stroke
Leukemia
Bacterial infections
Spinal cord injury
Epilepsy
Cystic fibrosis
Depression
Mental health
Asthma
Lymphoma
Breast cancer
Hepatitis



The ability to:

Transplant organs
Induce and control anesthesia
Correct congenital heart defects
Diagnose and monitor cancers
Treat cataracts
See inside the body without surgery (MRI)
Identify genetic causes of disease

Insights into:

Effects of concussion
Drug addiction
Effects of cigarette smoking
Traumatic brain injury
Obesity
Effects of aging
Autism and other social disorders
Gene & stem cell therapies

Medical device development for:

Hearing (cochlear implants)
Heart disease (valves/stents/pacemakers)
Joint replacements
Deep brain stimulation
Diabetes (insulin pumps)



ANIMAL RESEARCH HELPS ANIMALS AND HAS RESULTED IN:

Vaccines for:

Rabies (dogs, cats, foxes)
Distemper (dogs, cats)
Feline leukemia
Foot and mouth disease (cattle)

Therapies for:

Heartworm infestation (dogs)
Tuberculosis (cattle)
Cholera (pigs)
Cancer (dogs)



The ability to:

Artificially inseminate endangered species
Treat tendon/ligament injuries in horses
Replace joints in dogs
Identify genetic disorders in dogs

These are just some of the many ways that animal research benefits people and animals!

92% of scientists polled in a *Nature*¹ survey agreed that animal research is **essential** to the advancement of biomedical science.

85% OF THE NOBEL PRIZES AWARDED IN
PHYSIOLOGY OR MEDICINE HAVE BEEN
DEPENDENT ON RESEARCH WITH ANIMALS²



"Without the use of animals and human beings, it would have been impossible to acquire the important knowledge needed to prevent much suffering and premature death not only among humans, but also among animals."

Albert B. Sabin, MD, Developer of the Polio Vaccine

¹ Animal research: Battle scars. *Nature* 470, 452-453 (2011)

² <http://www.animalresearch.info/en/medical-advances/nobel-prizes/>

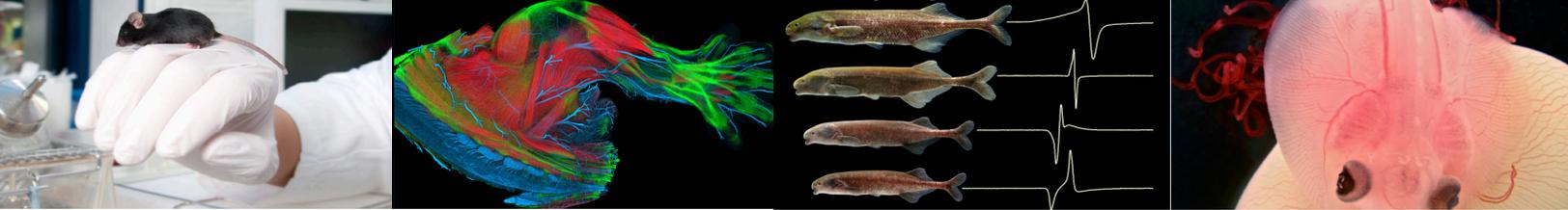


FASEB

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for Experimental Biology

For more information on how animals contribute to science, please visit:
www.faseb.org/animalsinresearch

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Animal Research is Regulated

BY THE NUMBERS...

- Over 99% of animals used in research are specifically bred for research¹
- Approximately 95% of all animal research is conducted on mice, rats, and fish.² Other species are used only when necessary

REGULATIONS, POLICIES, AND PRINCIPLES

In the United States, there are two primary regulatory bodies that oversee animal research.

- **United States Department of Agriculture (USDA)**
 - Enforces the Animal Welfare Act (AWA), which regulates the treatment of certain species of vertebrate animals
 - Conducts unannounced inspections at least once a year; posts inspection reports publicly
- **Public Health Service (PHS)**
 - Requires institutions to ensure the appropriate care and use of all animals involved in research conducted or supported by the PHS
 - Requires institutions to adhere to the ILAR *Guide for the Care and Use of Laboratory Animals*
 - Incorporates the *U.S. Government Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research, and Training*



INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE (IACUC)

- Oversees and evaluates all aspects of an institution's animal care and use program
- Is required by both AWA and PHS Policy
- Reviews research protocols involving vertebrate animals
- Inspects animal research facilities semi-annually to assure compliance with regulations
- Includes non-scientific members from the community



REPLACE, REDUCE, AND REFINE (3RS)

The 3Rs guide how animals are used in biomedical research. Researchers should:

- **REPLACE** animal models with alternative, non-living models when feasible
- **REDUCE** the numbers of animals in research
- **REFINE** methods to improve animal welfare

LABORATORY ANIMALS RECEIVE HIGH QUALITY CARE

All personnel involved with the care and use of laboratory animals must be trained in laboratory animal science to ensure the animals' well-being. **Laboratory animal veterinarians** oversee the clinical care and well-being of animals used in research, testing, and teaching. **Laboratory animal technicians** care for the research animals by providing food, water, and enrichment daily, and they monitor the health of the animals. **Researchers** receive training to ensure they have the expertise to perform procedures involving animals.



DID YOU KNOW? The Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC) is an organization that promotes the humane treatment of animals in science through voluntary accreditation and assessment. **Approximately 700 of the most productive, high quality research institutions in the United States have AAALAC accreditation.**

¹<http://www.amprogress.org/animalresearchfaq>

²<http://speakingofresearch.com/facts/statistics/>



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