

**FACT**

**VS.**

**MYTH**



*The  
essential  
need for  
animals  
in biomedical  
research*



FOUNDATION FOR  
BIOMEDICAL RESEARCH

***Thanks to recent  
medical research  
breakthroughs,  
scientists are closer  
than ever to finding new  
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and cures for a myriad  
of diseases shared by  
humans and animals.***



## ***Animals play an amazing role in our lives.***

Whether they're assisting in search and rescue operations, working with police and fire investigators to solve a crime, or living in an educational setting, animals make our world safer, healthier, and happier.

Many people form deeply satisfying, joyful relationships with their companion animals and often consider them family members. The visually and hearing impaired, as well as those living with epilepsy, look to animals for invaluable assistance with daily living. Chronic care facilities increasingly rely on animals to provide loving companionship for the sick and the lonely. A growing number of employers even welcome dogs, cats, and rabbits into the workplace because they believe the animals enhance employee performance and morale.

Like service animals, lab animals also play a heroic and vitally important role in medical progress. That's because research is the foundation for all medical science and lab animals are the foundation of that research.

Thanks to recent medical research breakthroughs, scientists are closer than ever to finding new preventions, therapies, and cures for a myriad of diseases shared by humans and animals.

Genomics, stem cell research, therapeutic cloning, and biotechnology all offer tremendous hope for the future of health and healing. Advances in surgical techniques and procedures, such as organ transplantation, as well as development of remarkable new drugs and medical devices hold great promise for eliminating infectious diseases like AIDS and hepatitis, for treating and curing deadly diseases like cancer, and for re-growing damaged spinal cord nerves to reverse paralysis.

**M**edical progress, for human health and animal health, requires lab animal research because there is no complete replacement for the whole living system. In recent years, a number of non-animal procedures have been developed for certain types of testing, and that number continues to grow.

Indeed, whether they are studying human health or animal health, scientists place a high priority on “The Three Rs” — reduction, replacement, and refinement. Here in the United States, our scientific and medical research communities are committed to supporting the development of techniques that promote humane animal use by:

*Reducing the number of animals needed in any given study*

*Replacing animals with other models whenever possible*

*Refining procedures to ensure the most humane treatment possible using the fewest number of animals to yield valid results*

Still, it isn't always easy to reconcile our love and appreciation for animals and the essential need for research. That's why we must separate the myths from the facts of animal research.



*Knowing that lab animals are treated respectfully, responsibly and as humanely as possible strengthens our understanding – as does separating **the facts** from **the myths.***



# MYTH

**ANIMALS ARE NOT NEEDED FOR MEDICAL RESEARCH. MOST MEDICAL BREAKTHROUGHS HAVE RESULTED FROM EPIDEMIOLOGICAL STUDIES, COMPUTER MODELS, AND CELL CULTURES.**



**F**rom vaccines to bone marrow transplants, animals have been right by our side, helping medicine advance. Practically every present day protocol for the prevention, control and cure of disease, and relief of pain, is based on knowledge attained — directly or indirectly — through research with animals. Physicians and scientists overwhelmingly agree that animal systems provide invaluable and irreplaceable insights into human systems because there are striking similarities between the genetic make-up and physiological systems of animals and humans.

*While medical and scientific advances achieved through research with animals are frequently supplemented by knowledge obtained through non-animal methods — such as computer models, mathematical models, cell and tissue cultures, clinical observation, and epidemiology — these alternative methods serve only as adjuncts to basic animal research.*

As yet, there is no complete alternative to biomedical research with animals. Since even the most sophisticated technology cannot mimic the complex cellular interactions that occur in a living system, there is still an essential need to develop surgical procedures, drugs, medical devices, and other promising treatments with some animals before there are human trials.

However, prospects are favorable for reducing the use of animals in the area of product development and testing. And conceivably, the day may come when animal research is no longer necessary.



# MYTH

**DOGS, CATS AND MONKEYS ARE THE MOST POPULAR RESEARCH ANIMALS.**



**S**ince the 1970s, the number of dogs and cats needed in animal research has declined by 70 percent and 72 percent, respectively. The number of primates needed represents less than one half of one percent of lab animals.

*Ninety-five percent of all research animals are rodents — mice and rats — bred for this purpose. Dogs, cats, and non-human primates together account for less than one percent of the total, and their number has declined for more than 25 years.*

Nobel Prize-winning research on the immunological basis for organ rejection was conducted with dogs.

Similarly, Nobel Prize-winning research with cats has contributed enormously to our understanding of eye disorders such as strabismus (or “cross-eye”) and amblyopia, a serious visual impairment that can cause blindness in one or both eyes.

There is an essential need for non-human primates, mainly rhesus monkeys, in the study of arteriosclerosis, reproductive disorders, Alzheimer’s, Parkinson’s disease, and infectious diseases such as viral hepatitis and AIDS.

*When will these myths go away?*





*Many research animals are zebrafish like me.*

## MYTH

**LOST OR STOLEN PETS ARE SOLD TO LABORATORIES.**

**D**espite persistent, unsubstantiated accusations to the contrary, there is absolutely no evidence to support the claim that dogs and cats are taken from homes and shelters and sold to laboratories. In fact, scientists neither need nor want to do research on pets.



**FACT**

*According to the United States Department of Agriculture (USDA), one of several government agencies overseeing the use of animals in medical research, 59,358 dogs and 21,083 cats were needed for biomedical research in 2014. These numbers represent less than one percent of all research animals.*

The Foundation for Biomedical Research recommends that all companion animals wear collars and identification tags at all times. Tags, implanted microchips, and even tattoos can help to re-unite a lost cat or dog with its family.



# MYTH

**THERE ARE NO LAWS OR GOVERNMENT REGULATIONS TO PROTECT RESEARCH.**



**T**he USDA has set forth federal regulations governing the care and use of animals in biomedical research that are considered more extensive than those covering human research subjects. The Animal Welfare Act sets high standards of care for research animals with regard to their housing, feeding, cleanliness, ventilation, medical needs, enrichment, and socialization. It also requires the use of anesthesia or analgesic drugs for potentially painful procedures and during post-operative care.

The U.S. Public Health Service (PHS) Act requires that all institutions receiving research funds from the National Institutes of Health, the Food and Drug Administration, or the Centers for Disease Control adhere to the standards set out in the Guide for the Care and Use of Laboratory Animals. Under the PHS policy, institutions must follow detailed animal care recommendations and establish an Institutional Animal Care and Use Committee (IACUC) to ensure that all animals are treated responsibly and humanely.

*Most importantly, research institutions are required — by law — to establish an Institutional Animal Care and Use Committee (IACUC) to oversee their work with animals. IACUCs require researchers to justify their need for animals, select the most appropriate species, and study the fewest number of animals possible to answer a specific question.*

# MYTH

**RESEARCH ANIMALS ARE DELIBERATELY KEPT IN PAIN.**



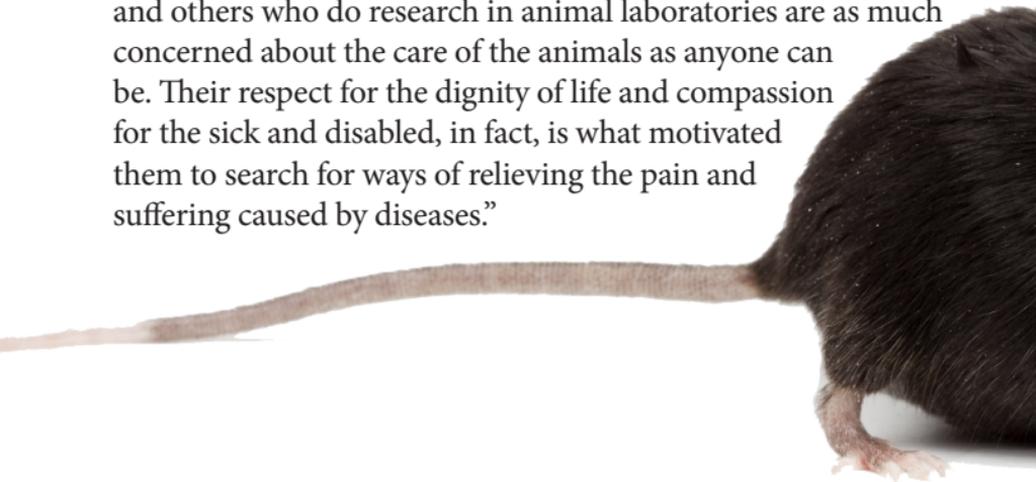
**T**here is no constituency for inhumane or irresponsible treatment.

Poor care results in unreliable research data. For results to be valid, animal subjects must be in good condition and appropriately healthy. Also, pain and distress are thought to have a negative impact on the immune system so researchers are careful to protect their animals from undue stress.

*The vast majority of biomedical research does not result in significant discomfort or distress to research animals. The USDA reports that in 2014, 57 percent of all research procedures with animals involved no more than slight or momentary pain or distress (i.e., an injection). Thirty-three percent of the research procedures employed anesthesia and/or post operative painkillers.*

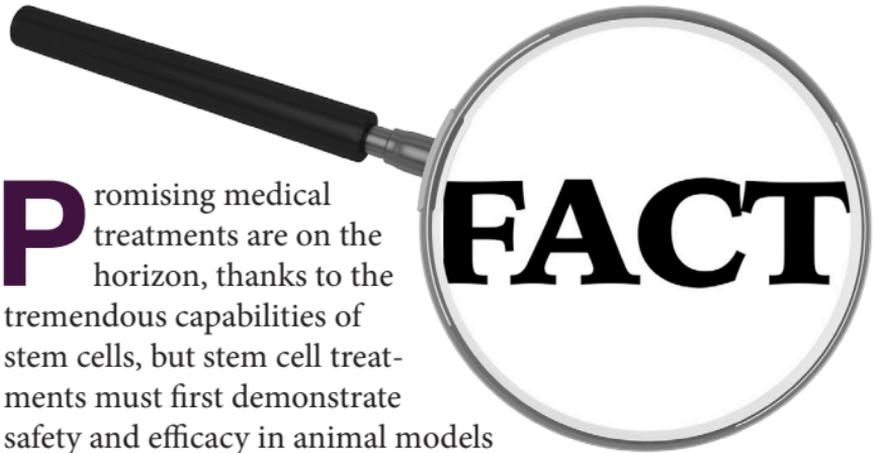
In eight percent of the procedures, neither anesthesia nor pain medication could be used, as they would have interfered with research results. However, when this is the case, discomfort is minimized as much as possible.

In the words of the late esteemed heart surgeon Dr. Michael E. DeBakey: "These scientists, veterinarians, physicians, surgeons, and others who do research in animal laboratories are as much concerned about the care of the animals as anyone can be. Their respect for the dignity of life and compassion for the sick and disabled, in fact, is what motivated them to search for ways of relieving the pain and suffering caused by diseases."



# MYTH

## STEM CELL RESEARCH DOES NOT REQUIRE ANIMAL MODELS.



**P**romising medical treatments are on the horizon, thanks to the tremendous capabilities of stem cells, but stem cell treatments must first demonstrate safety and efficacy in animal models before they can be introduced in humans.

Stem cells have the potential to regenerate cells, tissues, and organs, and to serve as delivery tools of important growth factors. Neural stem cells have been shown to deliver enzymes to brain cells in rats, penetrating the blood-brain barrier, and suggesting a potential treatment for Alzheimer's. Scientists are now developing drugs to regulate the actions of stem cells once they have been implanted, to be sure that they reproduce at the proper rate and that they differentiate into the right kind of cells.

*Stem cells allow close examination of the stages of cell and tissue development, and the origins of abnormalities. In fact, with further study, stem cells may be capable of replicating tissues and organs with such precision that fewer animal models would be required for certain types of research. However, there is still much that is unknown about stem cells and how they can best be used to treat diseases and disorders. It is critical, therefore, that scientists have the ability to explore all avenues of stem cell research to most fully benefit human and animal health.*

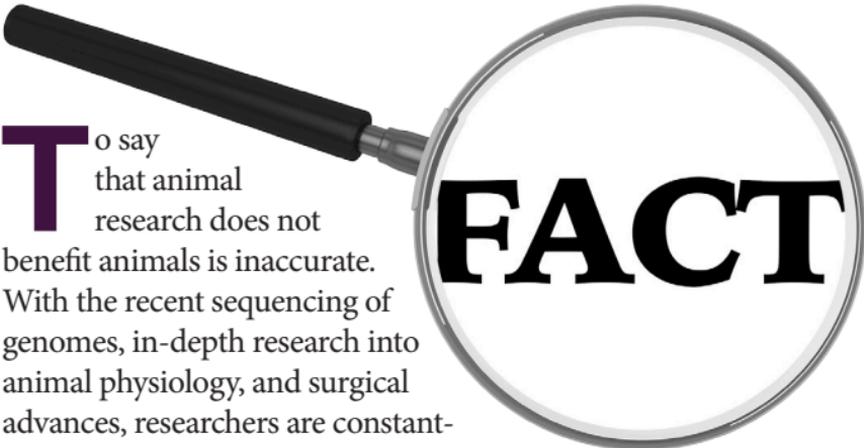


*Don't interrupt!  
I'm sniffing for  
cures.*

# MYTH

**ANIMAL RESEARCH IS THE EXPLOITATION OF ONE SPECIES FOR THE EXCLUSIVE BENEFIT OF ANOTHER.**

**T**o say that animal research does not benefit animals is inaccurate. With the recent sequencing of genomes, in-depth research into animal physiology, and surgical advances, researchers are constantly being reminded that humans share many biological and physiological characteristics with animals.



**FACT**

Practically all biomedical research with lab animals advances veterinary medicine as well as human medicine and helps pets and wildlife live longer, happier, and healthier lives. Dozens of diseases, from cancer to epilepsy, affect both animals and humans. Vaccines that treat humans benefit animals.

Many other conditions are successfully treated, in both humans and animals, with antibiotics. Through research with animals these diseases and disorders are becoming more manageable and less fatal.

*From asthma to high blood pressure to heart disease to cancer, people and their pets share a myriad of diseases and benefit from similar therapies. Thanks to animal research, effective new drugs have been designed, sophisticated medical devices have been developed, and remarkable surgical procedures have been perfected for human and veterinary medical care.*



# MYTH

**IF YOU REALLY LOVE ANIMALS,  
YOU SUPPORT THE ANIMAL RIGHTS  
MOVEMENT AND ITS EFFORTS TO END  
ANIMAL RESEARCH.**



*The majority of Americans support improving human and animal health through the responsible and humane use of animals in medical and scientific research. And most Americans love animals.*

*The two concepts are not mutually exclusive — when you know the facts.*

**T**hough it isn't easy to reconcile our love and appreciation for animals and the essential need for animal research, knowing that the animals are treated respectfully, responsibly, and as humanely as possible strengthens our understanding and respect for animal research.

Those who seek to end animal research — either because they choose to reject its well established validity and usefulness or because they believe the life of a rat is equal in importance to the life of a child — have gone to shocking lengths to subvert medical and scientific progress. University laboratories have been broken into, animals stolen and years of precious research data destroyed.

While many animal rights organizations refuse to condemn such criminal behaviors, most people have not, do not now, and will not in the future tolerate violent and radical activist campaigns against the biomedical research community.

*Animal research helps me too!*

*Though it isn't easy to reconcile our love and appreciation for animals and the essential need for animal research, knowing that the **animals are treated respectfully, responsibly, and as humanely as possible**, strengthens our understanding and respect for animal research.*







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The Foundation for Biomedical Research (FBR) is the nation's oldest and largest organization dedicated to improving human and animal health by promoting public understanding, respect and support for biomedical research in scientific and medical discovery.

Since 1981, FBR has provided continuous service to America's research community.

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