

Our Commitment to the ethical use and humane care of animals in research

We uphold the highest standards of ethical responsibility for the care and welfare of research animals while contributing to the discovery and development of innovative medicines that help patients prevail over serious diseases.

Our commitment

At Bristol Myers Squibb (BMS), we take seriously our responsibility for the ethical treatment of animals in research.

Our mission to discover, develop and deliver innovative medicines has both a legal and ethical obligation to ensure their safety and efficacy prior to use in humans. Regulatory agencies around the world require that investigational medicines be thoroughly evaluated before approval for use in human clinical trials, and research or testing methods that include the use of animals are sometimes compulsory. We believe that providing high-quality humane animal care and developing alternatives to animal use, where possible, are moral and scientific necessities.

We are committed to reducing our reliance on animal testing methods, and promoting the development, validation, and use of non-animal models. We abide by the 3Rs principles of animal research which requires that our scientists prioritize the following:

- Reduction of animals used
- Refinement of procedures to enhance animal welfare
- Replacement of animals with other methods, when available

The 3Rs Principles are used as a framework to ensure a high level of animal welfare and high-quality science, and to ultimately improve the lives of the people and animals that stand to benefit from the research.

Our commitment in action

Traditional endotoxin testing relies on LAL, derived from horseshoe crab blood. At BMS, we have been researching and analyzing synthetic alternatives, which would reduce the need for animal-derived reagents in endotoxin testing. Our adoption of recombinant Cascade Reagent (rCR) for bacterial endotoxin testing has been a pivotal advancement in our commitment to sustainability, scientific rigor, and ethical responsibility.

The rCR method has been rigorously validated to meet or exceed regulatory and quality standards for validation of an alternative method for water testing, ensuring that the transition from animal-derived Limulus amoebocyte lysate (LAL) did not compromise the integrity of our products. Throughout the validation process, we safeguard both product quality and patient safety, reinforcing trust in our medicines and therapies.

By transitioning to rCR, BMS has dramatically reduced the use of animal-derived reagents—(see our annual Impact Report for progress metrics). This shift not only conserves horseshoe crab populations but also aligns our operations with our global environmental stewardship ambitions. Future work will

include full implementation for water testing across the network, followed by product testing, which is being evaluated in PD's Microbiology Center of Excellence.

Governance

The BMS animal research programs are extensively monitored by external regulatory agencies (USDA, FDA), which prescribe specific standards for the care and use of animals in research and teaching. In addition, we voluntarily seek and maintain accreditation by the Association for the Assessment and Accreditation of Laboratory Animal Care International (AAALAC), a private, nonprofit organization that is internationally recognized as the gold standard for humane animal care in research. Our own internal standards for animal care are developed to consistently exceed relevant local, state, federal, and international regulatory requirements.

All animal research is internally reviewed and approved by the BMS Institutional Animal Care and Use Committee (IACUC) to ensure that the use of animals is consistent with scientifically valid methods and ethical considerations. The IACUC includes a chairperson, attending veterinarian, and other BMS representatives. In addition, the IACUC includes at minimum 1 to 2 members of the public who are non-affiliated with BMS or scientific research, who represent general community interests in the proper care and treatment of animals.

All studies, tests or other procedures paid for by BMS and involving the use of research animals at a 3rd party must also be reviewed for deviations from accepted BMS practices by the Animal Welfare Risk Assessment team.

Animal care

Standards for the construction and use of animal housing, service, and surgical facilities must meet those of the most current version of the Guide for the Care and Use of Laboratory Animals, BMS internal standards, and applicable governmental regulations.

Research animals are cared for and monitored daily by highly skilled and qualified personnel. We have a staff of board-certified laboratory animal medicine veterinarians and veterinary care staff that provide care 365 days a year.

Animals are provided with enriched environments designed to promote species-typical behaviors and psychological wellbeing. Our environmental enrichment programs include physical stimuli (such as species-appropriate toys, puzzles, etc.), edible treats, and social contact with compatible conspecifics and caretakers, as appropriate for each species and individual. All environmental enrichment is approved by the veterinary staff to ensure suitability and safety, and new enrichment strategies are continuously evaluated to improve animal welfare.

The animal housing environment is constantly monitored for temperature, humidity, lighting, and air exchange rates. Clean, contaminant free water is supplied at all times.

Remove/Reduce pain or distress

The IACUC, made up of board certified laboratory animal veterinarians and proficient scientists, evaluate every proposed research animal procedure with an emphasis on eliminating or minimizing any potential for unanticipated events.

Whenever possible, animals that have completed their research service are placed for adoption in personal homes or retirement at a well-trusted and licensed sanctuary.

Antimicrobial resistance

All animals are cared for and observed daily and there are preventative and supportive veterinary health care programs in place for all species.

To promote animal health and well-being and decrease the prevalence of antimicrobial resistance, the decisions to prescribe antimicrobials must be based on clinical signs and procedures while also considering the increasing resistance of bacterial populations, which can impact efficacy of critical pharmaceuticals in both human and veterinary medicine.

Training & education

All employees involved in the care, welfare, and use of research animals are trained and require competency assessments to ensure that they have the technical skills required to conduct ethical research in a manner that is safe for both the research animals and personnel and to produce scientifically valid results. Additionally, all colleagues who work with research animals are required to be aware of the ethical issues involved with their use and demonstrate respect and humane treatment towards the research animals in their care. Contractors and external third parties who carry out research for BMS are also expected to apply the same care and ethical standards and accreditation requirements.

Personnel performing procedures involving live animals must be trained and competent to perform such procedures before any work is performed, and the training and competency assessment must be verified and documented. The animal care and use program must be supervised by an individual who has training and experience in laboratory animal medicine and science.

Continuing education programs for all individuals directly working with animals are made available. Topics can include humane care and treatment of research animals, along with updates on alternative methods to animal usage. These programs may include both formal and informal presentations, attendance at appropriate meetings, web-based training, and the circulation of pertinent articles.

Safe and compassionate procedures for handling and caring for animals are in place at our facilities and disciplinary actions, up to and including termination, can be taken against employees who do not comply with our standards and procedures.