

Concept Clearance - Reissue of Resource-Related Research Projects for Development of Animal Models and Related Materials (R24)

ORIP's Strategic plan emphasizes development and enhancement of models of human disease as well as the expansion and accessibility of these models. The R24 funding mechanism supports Resource-Related Research Projects for Development of Animal Models and Related Materials. This R24 program supports a wide range of research activities, which cannot be accomplished effectively using the standard R01 and R21 mechanisms as the overarching goal of the program is to create resources for the biomedical community and enhance research infrastructure. The ORIP R24 program solicits applications focused on applied studies to characterize and develop new animal-based resources as well as improve existing resources and research projects that contribute to the knowledge of a model system, making the system more useful and accessible to the research community. R24 applications should also be aligned with ORIP's trans-NIH mission by addressing the research interests of multiple NIH Institutes and Centers and by demonstrating a wide community need for a specific resource-related activity. Depending on the stages of the projects, applications can vary in the balance of basic research activity versus resource related activities.

Between Fiscal Years (FY) 2013 to 2019, 204 applications have been received and 45 awards have been made under the two latest R24 announcements: PAR-13-253 (2013-2016) and PAR-16-369 (2016-2019). Renewal applications have a much higher success rate compared to new applications. A widely used measure of the impact of any research program is the number of scientific publications published by supported investigators. The R24 awards funded between FY 2013 and FY 2019 have produced 372 publications in peer reviewed journals. The ORIP R24 program supports grants which develop animal models across the most often used biomedical research species, such as nonhuman primates, aquatic animals (fish, *Xenopus*, *Axolotl*), rodents (mice and rats), and invertebrates (flies, worms, *Aplysia*, sea urchins), showing its wide utility to investigators.

Based on the productive nature of the R24 Animal Models Program, ORIP requests continuation of concept clearance for the Resource-Related Research Projects for Development of Animal Models and Related Materials (R24) Funding Opportunity Announcement.

The following are examples of projects funded under the R24 program:

- The Nonhuman Primate Reagent Resource (R24OD010976) develops, manufactures and distributes immune cell-depleting antibody research reagents to optimize the usefulness of these animal models. Program growth and advances are illustrated on the graphs. This program is currently being considered for renewal as an Animal Model, and Animal and Biological Material Resource Grant (P40).
- The CRE Driver Strain Resource (R24 OD011190) provides the scientific community with a centralized, comprehensive set of well-characterized Cre Driver lines and related information resources. The number of characterized lines and users are steadily growing, illustrating that this resource is in high demand by the biomedical community.
- The Control and Impacts of Diseases of Zebrafish in Research Facilities (R24OD010998) project is developing methods to control or avoid common pathogens in zebrafish facilities. Results of the studies, diagnostic tools and treatment options developed by the project are used widely by zebrafish investigators.

Special areas of interest for ORIP include development of new reagents and biomaterials; animal-based genetic, genomic, phenomic and proteomic tools; methods to improve cryopreservation of animal cells and germplasm; methods and tools for identifying, developing, screening and/or archiving specific animal models such as genetically engineered strains of mice, mutant nonhuman primates and specific aquatic models; and systems biology approaches to make the data generated from the use of animal models more globally discoverable and useful to researchers.