

RESPIRATORY BIOLOGY AND DISEASE MODELS

Unique Strength of the CNPRC

The CNPRC has been a leader in understanding nonhuman primate lung biology and respiratory disease for more than 30 years. It has the distinction of being the only NIH supported National Primate Research Center with a Respiratory Diseases research unit and scientific expertise in airway immunity, environmental air pollutants, lung physiology, and asthma.

The research program includes faculty from the UC Davis School of Veterinary Medicine and School of Medicine, with capabilities in rodent and nonhuman primate models. The CNPRC developed the first rhesus monkey model of adult and childhood asthma using a human allergen, which has given researchers the ability to test numerous biological mechanisms and new therapies.

In 2014 the CNPRC opened the Respiratory Disease Center (RDC). The state-of-the-art 19,000 square-foot Center, funded by the American Recovery and Reinvestment Act of 2009 and UC Davis, has wet laboratories and an inhalation exposure facility that is setting the standards for research in respiratory health. Research using nonhuman primate models of lung disease may be conducted by independent investigators with the assistance of CNPRC Research Cores. Scientists and staff associated with each of the Cores provide consultation in experimental design, sample collection, and data analysis, and offer assays that utilize species-specific reagents wherever possible. Core scientists can also work with users to develop new assays to meet research needs.

Lifespan Health

The scientific staff at the CNPRC utilize nonhuman primate models ranging from infants to geriatric animals to study the respiratory system across the entire life span. This includes close collaboration with other areas of research interest including infectious disease, behavior, and vision sciences.

CNPRC Respiratory Disease Center



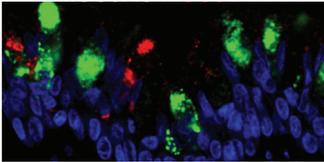
Scientists in the Respiratory Disease Center program have three areas of focus:

- Inhalation Toxicology
- Pulmonary Immunology
- Respiratory Physiology

Scientists at the CNPRC have developed several animal models including:

- Allergic asthma models (rodent, primate)
- Unique model of intrinsic non-atopic asthma
- Pediatric influenza model
- Tobacco smoke-induced model of COPD

SCIENTIFIC EXPERTISE



UC DAVIS
OFFICE OF RESEARCH

Engaging in corporate partnerships to support the mission of UC Davis

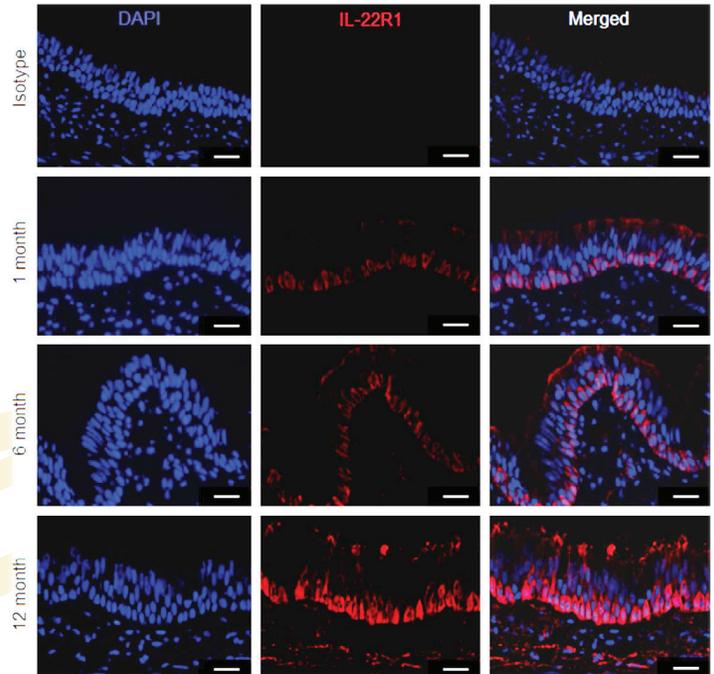
The University of California has a long history of cooperation with industry in the support of research that is consonant with the university's mission of teaching, research and public service. One of the primary purposes of the university is to carry out research to advance the frontiers of science and technology and further the university's educational programs.

LISA MILLER, PhD
 CNPRC Core Scientist
 Leader, Respiratory Diseases Unit
Pulmonary Immunology

KENT PINKERTON, PhD
 CNPRC Core Scientist
 CNPRC Pathogen Detection Laboratory
Inhalation Toxicology

EDWARD SCHEGLE, PhD
 CNPRC Core Scientist
Pulmonary Neurophysiology

CHRIS ROYER, DVM, PhD
 Manager, CNPRC Inhalation Exposure Core



IL-22R expression in developing lung

Enhanced viral replication and modulated innate immune responses in infant airway epithelium following H1N1 infection

Clay CC, Reader JR, Gerriets JE, Wang TT, Harrod KS, Miller LA

J. Virol., 88:7412-7425, 2014

Attenuated airway epithelial cell interleukin-22R1 expression in the infant nonhuman primate lung

Dugger DT, Gerriets JE, and Miller LA

Am J Respir Cell Mol Biol 53:761-8, 2015
 PMID: 26309027

Global Climate Change and Public Health

Pinkerton KE and Rom WN

Kent E. Pinkerton and William N. Rom, (ed)

Global Climate Change and Public Health, 2014, Springer Humana Press, New York

Women and Lung Disease Sex Differences and Global Health Disparities

Pinkerton KE, Harbaugh M, Han MK, Jourdan Le Saux C, Van Winkle LS, Martin II WJ, Kosgei RJ, Carter EJ, Sitkinn N, Smiley-Jewell SM, George M
American Journal of Respiratory and Critical Care Medicine, 2015 192(1): 11-16.