Reen Wu, Ph.D.

Clinical Interests
Dr. Wu has used human lung cells and tissues as well as animal models to study the molecular mechanisms of various lung diseases in asthma, chronic obstructive pulmonary disease (COPD), cardiac fibrillation (CF), airway inflammation and infection, smoking, and inhalation toxicology. His focus is on the role of airway epithelial cells in the development of these diseases and the injury/repair response. Dr. Wu also is interested in the cell signaling, innate immunity and regulation of gene expression in airway epithelial cells. Recently, he has developed the application of stem cells for airway regenerative medicine.

Title
Professor

Specialty
Cell Biology and Human Anatomy, Internal Medicine, Pulmonary and Critical Care

Department
Internal Medicine

Division
Pulmonary, Critical Care, and Sleep Medicine

Languages
Chinese (Mandarin)

Education
Ph.D., University of Arkansas School of Medicine, Little Rock, Arkansas, 1972
B.S., National Taiwan University, Taipei, Taiwan, 1965
M.S., National Taiwan University School of Medicine, Taipai, Taiwan, 1968

Fellowships
UC San Diego, San Diego, California, 1974

Professional Memberships
American Association for the Advancement of Sciences
American Society for Biochemistry and Molecular Biology
American Thoracic Society

Honors and Awards
Pfizer Award for Research Excellence, Veterinary Medicine, UC Davis, 2006
Faculty Research Award, UC Davis School of Medicine, 1996
National Institutes of Health Merit Award, R37 HL35635, 1995
Joan Oettinger Memorial Award, UC Davis School of Medicine, 1993

Select Recent Publications
Chen Y, Hamati E, Lee WM, Wachi S, Schnurr D, Shigeo Y, Dolganov G, Boushey H, and Wu R. Rhinovirus induces airway epithelial gene expression through double-stranded RNA and IFN-dependent pathways. Am J Respir Cell Mol Biol, 34:192-203.
Harper RW, Xu C, Eiserich JP, Kao CY, Thai P, Setiadi H, and Wu R. Differential regulation of dual NADPH oxidase/peroxidase, Duox 1 and Duox 2, by Th1 and Th2 cytokines in respiratory tract

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Kao CY, Huang F, Chen Y, Thai P, Wachi S, Kim C, Tam L, and Wu R. Up-regulation of CC chemokine ligand 20 expression in human airway epithelium by IL-17 through a JAK-independent but MEK/NF-kappaB-dependent signaling pathway. J Immunol, 175:6676-6685.
Thai P, Chen Y, Dolganov G, and Wu R. Differential regulation of MUC5AC/Muc5ac and hCLCA-1/mGob-5 expression in airway epithelium. American J Respir Cell Mol Biol, 33(6):523-530.
Wachi S, Yoneda K, and Wu R. Interactome-transcriptome analysis reveals the high centrality of genes differentially expressed in lung cancer tissues. Bioinformatics, 21(23):4205-4208.
Kao CY, Chen Y, Thai P, Wachi S, Huang F, Kim C, Harper RW, and Wu R. Interleukin-17 markedly up-regulates b-defensin 2 expression in human airway epithelium via JAK and NF-kB pathways. J Immunol, 173:3482-3491.
Chen Y, Zhao YH, Kalaslavadi TJ, Hamati E, Nehrke K, Le AD, Ann DK, and Wu R. Genome-wide search of novel gel-forming mucin genes and identification of MUC19/Muc19 as a new glandular tissue-specific mucin gene. Am J Respir Cell Mol Biol, 30:155-165.
Di YP, Zhao YH, Harper R, and Wu R. Molecular cloning, and characterization of a human novel gene that is retinoic acid-inducible and encodes a secretory protein specific in upper respiratory tracts, SPURT. J Biol Chem, 278:1165-1173.
Kao CY, Chen Y, Zhao YH, and Wu R. ORFeome-based search of airway epithelial cell-specific novel human b-defensin genes. Am J Respir Cell Mol Biol, 29:71-80.
Chen Y, Thai P, Zhao YH, Ho YS, DeSouza MM, and Wu R. Stimulation of airway mucin gene expression by IL-17 through IL-6 paracrine/autocrine loop. J Biol Chem, 278:17036-17043.