

Dr. Mark Denison  
Craig-Weaver Professor of Pediatrics  
Professor of Pathology, Microbiology & Immunology  
Departments of Pediatrics and Microbiology and Immunology  
Vanderbilt University  
Nashville, TN

Mark Denison M.D. is the Craig-Weaver Professor of Pediatrics, Pathology, Microbiology & Immunology at Vanderbilt University Medical Center in Nashville, TN. Dr. Denison has performed over 25 years of NIH-funded research focused on the replication, pathogenesis and evolution of coronaviruses, a family of RNA viruses from which SARS-CoV emerged. Coronaviruses cause respiratory infections in humans and increasingly are thought to be ubiquitous among mammalian species. Notably, a large number of novel coronaviruses have been identified in bats, suggesting that bats may be critical for emergence of coronaviruses in other species. Coronaviruses may have unique potential for cross-species movement. They encode novel RNA synthesis and probable RNA proofreading functions, thereby conferring the ability to maintain large and complex genomes, and to respond to host or other environmental changes. The Denison lab focuses on determining the mechanisms of coronavirus evolution and host species movement and adaptation, using synthetic biology and reverse genetics. Dr. Denison has served on the steering committee for the Southeast Regional Center of Excellence in Emerging Infections and Biodefense for the past eight years. In addition, he is the Chair of the Vanderbilt Institutional Biosafety Committee, and has served on multiple Government and international panels involved in review or consideration of biodefense, biosecurity, and synthetic biology.