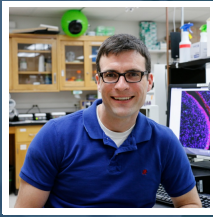


Identifying the Causes of Birth Defects Using Innovative Holistic Approaches



Robert Lipinski
Assistant Professor, Comparative Biosciences

CURRENT RESEARCH

Understanding the interaction of genetic and environmental factors will lead to effective prevention strategies


Each year, 7.8 million children are born with serious birth defects, such as cleft lip and palate. These conditions have a significant impact on the affected individual's survival and quality of life, and pose serious familial and societal economic burden. Though prevention strategies hold the most promise for reducing birth defect incidence, they have remained largely elusive because most birth defects result from complex interactions that are difficult to define. Dr. Robert Lipinski, Assistant Professor of Comparative Biosciences at University of Wisconsin-Madison (UW), develops innovative techniques to identify markers in high-risk individuals and develop prevention strategies for common and morbid human birth defects.

Most birth defect are not caused by genetics alone, but by complex interactions of genetic and environmental factors. Dr. Lipinski's novel holistic research shows that birth defect outcomes are the result of a perfect storm: genetic predispositions overlaid with environmental factors. Unlike genetic factors, environmental causes can be easily avoided once identified. Using innovative screening models, he is identifying specific chemicals and other environmental factors that interact with genetic mutations and contribute to the development of birth defects.

Dr. Lipinski leads a multidisciplinary team that includes a research technician and graduate and undergraduate students. They integrate novel in vitro screening approaches with mouse models that faithfully recapitulate human birth defects. Their collaborations with doctors at the National Institutes of Health and genetic experts at University of Pittsburgh enable Dr. Lipinski and his team to directly translate their...

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AFFILIATION

 University of Wisconsin-Madison

EDUCATION

- Ph.D. in Molecular and Environmental Toxicology, University of Wisconsin-Madison

AWARDS

- Dr. Razia Zaman-Dr. Shahanara Zaman Saroya Graduate Student Award for Excellence in Research & Scholarship, 2007
- Peter Duncan Fellow Award, David W. Smith Workshop on Malformations and Morphogenesis, 2012
- International Society for Biomedical Research on Alcoholism President's Young Investigator Award, 2012

RESEARCH AREAS

Life Science, Genomics / Congenital, Pediatric

FUNDING REQUEST

Your contributions will help fund the \$200K/year needed for Dr. Lipinski's continued research in identifying genetic and environmental factors that cause birth defects. Costs include personnel, reagents, and equipment. The result of this field-changing research has the potential to generate breakthroughs for decades to come. Play a role in pursuing these important questions, enabling widespread translation of these novel technologies, and preventing birth defects; fund Dr. Lipinski.