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Biosketch

Dr. Rachel Church is a member of Dr. Paul Watkins' lab at the UNC Institute for Drug Safety Sciences. Prior to joining Dr. Watkins' group, she received her B.S. from the North Carolina State University and her Ph.D. from the University of North Carolina at Chapel Hill. Given the shortcomings of traditional biomarkers employed for toxicity screening in clinical and non-clinical settings, Dr. Church's current research interests focus on the identification and application of novel, potentially superior, biomarkers associated with organ injury. As the head of the UNC Organ Injury Biomarker Core, she utilizes newer, mechanistically insightful biomarker candidates to assist pharmaceutical, governmental, and academic investigators with the characterization of injuries inflicted on the liver, kidney, and heart. Dr. Church is also interested in utilizing microRNA profiling techniques to explore the utility of microRNAs as sensitive and mechanistically insightful biomarkers of toxicity. This line of work has resulted in multiple publications identifying microRNAs associated with specific injuries to the kidney and liver. Dr. Church's work has been recognized by the Society of Toxicology and the Drug Metabolism Discussion Group.

Abstract: Transformative DILI Biomarkers-DILIN/SAFE-T Collaboration

There is a clear need for novel prognostic biomarkers of drug-induced liver injury (DILI). The Drug Induced Liver Injury Network (DILIN) prospectively collects serum specimens from patients who are experiencing or have experienced clinically important liver injury suspected to be caused by prescription drugs, herbs and dietary supplements. The liver health of these individuals is assessed at 6 months following DILI onset to determine whether they have recovered, are experiencing chronic DILI, or have succumbed to their injury in the form of death or liver transplant. In collaboration with the Safer and Faster Evidenced-based Translation (SAFE-T) consortium supported by the Innovative Medicines Initiative in Europe, the levels of multiple candidate DILI biomarkers were measured in a subset of DILIN subjects (n=147) whose initial specimens were collected within 2 weeks of DILI onset. These measurements were utilized to determine if a novel candidate biomarker, or combination of biomarkers, could more accurately predict patient outcome compared to traditional biomarkers and metrics of liver toxicity. The results of this collaborative effort will be discussed.