

## **microRNA Ribonucleoprotein Complex Components and Regulation of Target Protein Expression**

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MicroRNA (miRNA) are small RNA sequences that are often associated with post-transcriptional suppression of target protein expression by preventing mRNA translation or through mRNA degradation. Despite many studies in this area the cellular mechanisms that responsible for the changes in target protein expression have not been completely elucidated. This project is investigating the fundamental, yet extremely complex, topic of regulatory mechanisms of miRNA on mRNA targets through characterization of miRNPs that dictate the action of miRNA miR-29b, a microRNA that has been demonstrated to protect of the kidney from hypertensive renal injury and regulate the expression of several extracellular matrix proteins.

Based on approaches developed by the Wisconsin CEGS, the project utilizes biotin-labeled synthetic microRNA oligonucleotides to isolate miR-29b interacting proteins from cytoplasmic and nuclear fractions of HeLa cells, and subsequent mass spectrometry analysis to identify miRNPs potentially involved in miRNA regulation.

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