Michael McManus, PhD is UCSF’s resident expert in microRNAs, the so called “dark matter” of the genome that are the tiny “switches” that control most of the genes in the body.

Many laboratories are excited about microRNAs because they can be custom-tailored in the lab, where they can silence bad genes that cause human diseases such as diabetes. McManus and his team are getting a better understanding of how these tiny RNAs work so that new drugs can be created to treat and cure diabetes. They have recently developed a powerful method to simultaneously create thousands of custom-tailored microRNAs in a single tube, where a researcher can rapidly select the ones that exhibit the greatest potency against a disease gene. Their method will allow medical researchers across the globe to develop a better understanding of human disease at a much faster rate and at minimal cost. These custom-tailored microRNAs can be introduced into the body as a drug and McManus’ resources will accelerate the pace of drug discovery and create a major impact across many research disciplines. Recently published in the journal Nature Methods, this breakthrough procedure will help researchers to study the genetic basis of diseases such as diabetes, Parkinson’s disease, HIV and cancer. [journal article link [1]]

Source URL: https://diabetes.ucsf.edu/news/breakthrough-method-created-switch-genes

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