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Targeting RNA Splicing in Cancer and the Immune System

Thomas “Trey” Westbrook Ph.D. is Executive Director of the Therapeutic Innovation Center (THINC), Welch Chair in Chemistry, and a Professor in the Departments of Molecular & Human Genetics and Biochemistry & Molecular Biology at Baylor College of Medicine. His research seeks to unravel how the genetic drivers of cancer create new cancer vulnerabilities that can be exploited therapeutically. Nearly two decades ago, Dr. Westbrook contributed to the development of the first barcoding approaches for genetic screens (“functional genomics”) in human cells (Westbrook, *Cell* 2005), an approach that underpins most RNAi and CRISPR screening strategies in mammalian systems today. Since this time, his team has focused on using synthetic lethality, chemical biology, and other approaches to identify and credential new dependencies of cancer. For instance, his team contributed the first synthetic lethal screens for MYC-driven cancers (Kessler, *Science* 2012) and has spent the past decade studying how common oncogenes like MYC drive unanticipated cancer vulnerabilities in RNA processing and metabolism. His team actively collaborates with academic, patient advocacy, and pharma/biotech partners to translate these vulnerabilities into patient benefit.

Dr. Westbrook has served as a faculty member at Baylor College of Medicine since 2007 and is an Era of Hope Scholar in Breast Cancer Research, McNair Scholar in Cancer Research, and Scholar of The V Foundation for Cancer Research. Dr. Westbrook’s innovations have been widely recognized by the community in journals including *Science*, *Nature*, and *Cell*, and he has received numerous awards for his contributions to science and commitment to cancer patients.