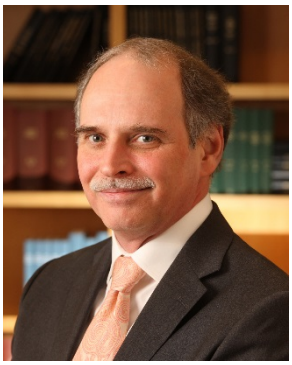

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Biography

Brent A. French is a Professor of Biomedical Engineering, Radiology and Cardiovascular Medicine at the University of Virginia in Charlottesville. He received his PhD in 1987 from the Louisiana State University. After completing his postdoctoral studies at the Baylor College of Medicine in 1991, he joined the faculty at Baylor as an Assistant Professor in the Molecular Cardiology Unit. In 1995, he moved to the Cardiology Division at the University of Louisville to pursue a new research initiative in Molecular Cardiology. Dr. French moved his laboratory to the Department of Biomedical Engineering at the University of Virginia in 1998 as part of a program to build strength in targeted drug and gene delivery. Basic research in the French lab probes the roles of oxidative stress in health and disease (focusing primarily on heart attack and heart failure). Applied research in the French lab is focused on developing novel therapies and diagnostics for ischemic heart disease. This work encompasses targeted delivery of drugs, genes and contrast agents in combination with multiple pre-clinical imaging modalities (primarily cardiac MRI, ultrasound, microPET and optical imaging). Dr. French is a Fellow of the American Heart Association and serves regularly on study sections for the AHA and NIH.

Abstract

"Tissue-Targeted AAV9 Vectors for the In Situ Bioengineering of Cardiac Regeneration"

Over the past two decades, a wide variety of strategies have been pursued aiming to regenerate cardiac muscle lost during heart attack. Many of the cell-based strategies have advanced to clinical trial, and although isolated trials have shown promise, a recurring theme is that the initial promise shown in pre-clinical studies and preliminary clinical trials often disappears when examined later in larger, more rigorously designed and randomized clinical trials. Even so, progress continues to be made in field of cardiac regeneration, and a number of promising new strategies are emerging for repairing the heart after myocardial infarction. These include genetically programming cardiomyocytes to proliferate in situ and programming infarct-resident fibroblasts to transdifferentiate directly into cardiomyocytes. Although impressive progress has been made at the pre-clinical level on both these fronts, research to date has largely failed to address the considerable hurdles that need to be overcome before these regenerative therapies can be delivered in a robust, efficient and clinically-relevant manner while minimizing untoward, off-target side effects. The overall thrust of this research program is focused on developing tissue-targeted AAV vectors capable of addressing these considerable translational challenges.