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## *In vivo* effects of APOE mimetic peptides in animal models of atherosclerosis

ApoE plays an important role in the regulation of plasma cholesterol and atherogenic lesion formation in animal models of atherosclerosis. While apoE represents a potentially important therapeutic target for the treatment of lipid disorders, there are no specific therapies that increase circulating levels of the apolipoprotein. ApoE mimetic peptides containing a lipid-associating domain and a putative apoE receptor binding sequence have been shown to interact with macrophages and hepatocytes to mediate cholesterol efflux and clearance, respectively. Subsequent studies showed that a single bolus injection of the apoE mimetic peptide Ac-hE18A-$NH_2$ in Watanabe Heritable Hyperlipidemic Rabbits reduced circulating VLDL and LDL cholesterol for time periods up to 24 hrs. The reduction in VLDL was associated with the rapid clearance of triglycerides and an increase in plasma paraoxonase 1 activity. Chronic administration of the peptide similarly reduced cholesterol in both LDL receptor null and apoE null mice and prevented the progression of aortic lesions. Collectively, these results indicate that Ac-hE18A-$NH_2$ exerts anti-atherogenic effects in the absence of apoE and functional LDL receptors. Recent studies demonstrate that Ac-hE18A-$NH_2$ also reduces plasma glucose and insulin levels in sucrose-fed mice, a model of Type 2 diabetes. Mechanisms by which the peptide attenuates hyperglycemia are currently under investigation.

### Biography

C Roger White is a Professor of Medicine in the Division of Cardiovascular Disease at the University of Alabama at Birmingham (UAB). He received his Doctoral training in the Department of Physiology and Biophysics at the University of Illinois at Urbana-Champaign. He went on to pursue Postdoctoral studies in the Vascular Biology and hypertension training program situated in UAB's Cardiology Division. He subsequently joined the faculty in the Division of Cardiovascular Disease in 1993. He is a Fellow of the American Heart Association Council for High Blood Pressure Research and the American Physiological Society Cardiovascular Section.

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