

## Department of Pharmacology



Proudly Presents  
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Signaling

Neuroscience

Genomics

## *Frontiers in Pharmacology*

**John Rutledge, M.D.**

Internal Medicine  
UC Davis

### “Triglyceride-Rich Lipoproteins: Friend or Foe?”

Elevation of blood triglycerides, primarily as triglyceride-rich lipoproteins (TGRL), is a known risk factor for the development of atherosclerotic cardiovascular disease and increasingly linked to vascular inflammation. Our previous work on this project has provided interesting observations that warrant additional study: TGRL lipolysis products cause release of potentially pro-inflammatory proteins, such as transforming growth factor (TGF)- $\beta$ 1, from endothelial cells, activate nuclear transcription factors in endothelial cells, and increase endothelial layer permeability and low-density lipoprotein (LDL) accumulation. Our project addresses mechanisms of vascular inflammation induced by TGRL and TGRL lipolysis products and will test TGRL lipolysis products in aggregate or as lipolysis product fractions, such as remnant particles, fatty acids, phospholipids, monoglycerides, and diglycerides. We expect to increase our understanding of how TGRL lipolysis products modify endothelial cell glycocalyx, regulate signaling in endothelial cells, increase endothelial layer permeability, and increase VLDL remnant accumulation in the artery wall. We study lipid and lipoprotein interactions with vascular tissues, with a goal of achieving better treatments for atherosclerotic cardiovascular disease.

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Friday, March 2, 2007  
10:00 am

Auditorium (Room 1005) in GBSF