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## EMBARGOED UNTIL ONSITE NEWSROOM

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**Development of Novel Therapies for Endothelial Damage
May Heal Atherosclerotic Plaques**

**BOSTON —** Heart disease and approximately half of all strokes are the results of advanced atherosclerosis with damaged endothelium, the inner lining of blood vessels. In 2009, the direct and indirect annual cost of heart disease and stroke was approximately $312.6 billion. Projections are for the total cost of heart disease to increase from $523 to $1.126 billion from 2013 to 2030. And by 2030, it is expected that there will be more than 148 million of the US population would have heart disease. Development of new technologies for assessing and treating endothelium damage will help reduce that financial burden as reduce the human health burden resulting from atherosclerosis.

Dr. Hua Pan, Research Instructor in Medicine at Dr. Samuel Wickline's Laboratory in Washington University School of Medicine, investigated quantitative evaluation and developed novel therapies for endothelial barrier damage. The evolution and severity of endothelium damage in advanced atherosclerotic plaque remain unknown, in part because quantifiable methods are lacking for its in vivo assessment. Her latest study is the first to demonstrate, in a well-established atherosclerosis mouse model, ApoE deficient mice, a multifunctional perfluorocarbon (PFC) nanoparticle (NP) for quantification of endothelial damage as well as targeted anti-inflammatory drug delivery to the endothelium damage site.

The study, conducted in ApoE deficient mice, quantified endothelium damage by using PFC NP retained in mouse aorta as surrogate. It demonstrated the evolution and severity of endothelium damage in correlation to the length of the animal fat-diet consumption. Moreover, the same PFC NP loaded with anti-inflammatory drug, NF-κB inhibitor, down-regulated inflammation. Dr. Wickline noted, this finding provided a new avenue for defining disease stage and for following therapy to heal dangerous atherosclerotic plaques.

Her findings will be presented April 22, 2013 during Experimental Biology 2013 in Boston, MA.

To request an interview with Dr. Pan, please contact Jim Bernstein at the contact information listed above.

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**About Experimental Biology 2013**Experimental Biology’s mission is to share the newest scientific concepts and research findings shaping future and current clinical advances – and to give scientists and clinicians an unparalleled opportunity to hear from colleagues working on similar biomedical problems using different disciplines. With six sponsoring societies and another 20 U.S. and international guest societies, the annual meeting brings together scientists from throughout the United States and the world, representing dozens of scientific areas, from laboratory to translational to clinical research. The meeting also offers a wide spectrum of professional development sessions.

**About the American Society for Pharmacology and Experimental Therapeutics**

ASPET is a 5,100 member scientific society whose members conduct basic and clinical pharmacological research within the academic, industrial and government sectors. Our members discover and develop new medicines and therapeutic agents that fight existing and emerging diseases, as well as increase our knowledge regarding how therapeutics affects humans.