



THE UNIVERSITY of TEXAS

HEALTH SCIENCE CENTER AT HOUSTON

Office of Technology Management

ECHOGENIC LIPOSOMES FOR TARGETED DELIVERY OF THERAPEUTIC COMPOUNDS TO AETHERSCLEROTIC PLAQUES

Introduction: Atheroma is a buildup of cells(or cell debris), lipids, calcium and a variable amount of fibrous connective tissue within the arteries. While everyone has some degree of atheroma, the progression of atheroma (termed atherosclerosis), can lead to a wide range of cardiovascular conditions. Even in highly industrialized countries, atheroma continues to be the number one underlying basis for disability and death. For 2007, the estimated direct and indirect cost of cardiovascular diseases in the United States is \$431.8 billion.

Current Problems: At this time, there are some ways to avoid developing atheromas, such as improving diet, exercise, and a targeted drug regiment (including aspirin and statins). However once a plaque has progressed to a certain point, especially once a cardiovascular event is eminent or has occurred, the options become considerably limited. One therapy that has been developed is the so called “clot busting” class of drugs; however, they must be administered within a narrow window. There is a need in this area for methods to characterize plaques, and target a wide range of therapies to those plaques.

The Technology: Dr. David McPherson and his group at the University of Texas Health Science Center at Houston (UTHSC-H) have pioneered the use of specially formulated liposomes for imaging and therapeutic delivery to atheroma in the coronary arteries, carotid arteries, peripheral arteries and thrombus in the heart and brain.

Intellectual property generated by the group describes a broad therapeutic technology consisting of unique echogenic liposomes, methods of targeting them to plaques and thrombus for either imaging of the plaque or delivery of therapeutic compounds, and methods of delivering those compounds to the atheroma or thrombus.

NON-CONFIDENTIAL TECHNOLOGY DESCRIPTION

The preceding is intended to be a non-confidential summary of a novel technology created at the University of Texas Health Science center at Houston (UTHSC-H), for which the University is seeking patent protection.

UTHSC-H Ref. No(s): 2007-0022, 2007-0059, 2007-0064

Inventor(s): David McPherson, M.D., *et al.*

Patent Status: Two issued patents, three pending patent applications

License Available: World-wide; exclusive or non-exclusive

To obtain further information about this technology, please contact:
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