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**PHARMACYCLICS ANNOUNCES PRESENTATION OF DATA USING NOVEL
TEXAPHYRIN COMPOUNDS TO VISUALIZE VULNERABLE PLAQUE**

Sunnyvale, Calif., -- May 24, 2004 -- Pharmacyclics, Inc. (Nasdaq: PCYC) today announced the presentation of preclinical data describing the use of novel compounds, based on the company's texaphyrin technology, for imaging vulnerable atherosclerotic plaque which is widely believed to be a major cause of heart attacks. The data was presented at the Third International Meeting of the Society of Atherosclerosis Imaging, held May 21-23, 2004, in New Orleans, LA.

The presentation, by Albert C. Lardo, Ph.D., and colleagues in the Division of Cardiology and the Department of Radiology, Johns Hopkins University School of Medicine and done in collaboration with scientists from Pharmacyclics, described studies, which are aimed at developing compounds to target and visualize vulnerable plaque using non-invasive magnetic resonance imaging (MRI) procedures.

"There is a large unmet clinical need for diagnostic methods that enable the identification of potentially lethal rupture-prone coronary plaques," said Dr. Lardo. "The agents tested in this study represent a novel targeted approach for the identification of lipid-rich inflammatory atherosclerotic plaque that could have important implications for non-invasive imaging and detection of vulnerable plaque and aid in the evaluation of new treatments for this condition."

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Chemists at Pharmacyclics designed and synthesized several texaphyrin compounds with increased propensity to target the lipid/inflammatory component of atherosclerotic plaque. These texaphyrin molecules contain the metal ion gadolinium in their core making them detectable by MRI. Administration of these compounds to animals with experimentally-induced atherosclerosis followed by MRI scanning demonstrated that the compounds localized selectively in plaque and enhanced the MRI signal. MRI scans were performed prior to and at various times following injection of these compounds and showed preferential enhancement of the MRI signal in the atherosclerotic plaque allowing visualization of the diseased sites in the blood vessels.

Most heart attacks are caused by inflammatory lesions in the walls of coronary arteries. These lesions, known as vulnerable plaque, are prone to rupture causing acute thrombosis and obstruction of blood flow. Vulnerable plaque is not readily detected by current imaging techniques such as angiography since it usually does not limit blood flow. MRI is a standard diagnostic imaging technique, which is becoming more widely used in cardiology. Current approaches using MRI are based on detection of blood flow in the vessels and therefore provide limited information. The development of contrast agents that can selectively target the inflammatory component of atherosclerotic plaque holds the potential to enhance the signal and increase the resolution of MRI scans facilitating detection of plaque and providing detailed discrimination of plaque components.

“This represents another potential application of our platform technology,” said Richard A. Miller, M.D., president and chief executive officer of Pharmacyclics. “Texaphyrin molecules have been designed to target cancer and now vulnerable plaque. The novel molecules studied by the group at Johns Hopkins may provide a new approach to imaging vulnerable plaque. Our strategy will include establishing a corporate partnership for our

cardiovascular program with a major company focused on development and commercialization of innovative cardiovascular disease products.”

About Atherosclerosis and Vulnerable Plaque

Atherosclerosis is a major cause of morbidity and death. The disease occurs through build-up of cholesterol and abnormal tissue within blood vessel walls, which often leads to life-threatening blockages of blood vessels to the heart and brain. Abnormal tissue within blood vessel walls consists of connective tissue, smooth muscle cells, and inflammatory cells called macrophages. Although atherosclerosis has long been known to be associated with high levels of circulating cholesterol, inflammation has been shown to be another important factor in progression of atherosclerosis and in plaque rupture, a cause of heart attacks.

About Texaphyrins

Texaphyrins are synthetic small molecules that resemble naturally occurring porphyrins. These ring-shaped molecules contain a central metal ion in their core. Synthetic modification of the ring or replacement of the central metal ion can alter the chemical and biological properties of these molecules.

Pharmacyclics has been developing a texaphyrin molecule known as Antrin[®] (motexafin lutetium) Injection for the potential treatment of vulnerable plaque. Antrin is injected into the bloodstream, where it accumulates in the multiple sites of plaque throughout the body. Targeted areas are then exposed to far-red light, which is delivered by an optical fiber inserted into the vessel using standard interventional techniques. When activated by the light, Antrin generates a chemical reaction that may selectively eliminate macrophages, causing stabilization or reduction of vulnerable plaque. Antrin

phototherapy has completed Phase 1 and Phase 2 testing in peripheral arterial disease, and Phase 1 testing in coronary artery disease. These trials indicated that intravenous administration of Antrin and the Antrin phototherapy procedure are well tolerated, with no serious adverse events seen in the over 200 patients enrolled in these studies. A limitation to clinical investigation with new treatments for vulnerable plaque has been the inability to image the disease and monitor response to therapy. This has provided the impetus toward the development of novel agents for vulnerable plaque detection.

Pharmacyclics' lead texaphyrin molecule, Xcytrin[®] (motexafin gadolinium) Injection is now in a randomized Phase 3 clinical trial designed to compare the effects of whole brain radiation therapy (WBRT) alone to WBRT plus Xcytrin for the treatment of brain metastases (cancer that has spread to the brain from another part of the body) in patients suffering from non-small-cell lung cancer (NSCLC). This trial, known as the SMART trial, will enroll 550 patients at leading centers in the United States, Canada, Europe and Australia. Pharmacyclics has been granted Fast-Track status by the U.S. Food and Drug Administration (FDA) for Xcytrin for the treatment of brain metastases in NSCLC patients. Xcytrin also is currently under investigation in several Phase 1 and Phase 2 clinical trials in various cancers evaluating its use as a single agent and in combination with chemotherapy and/or radiation therapy.

About Pharmacyclics

Pharmacyclics is a pharmaceutical company developing innovative products to treat cancer and atherosclerosis. The company's products are rationally designed, ring-shaped small molecules called texaphyrins that selectively target and disrupt the bioenergetic processes of diseased cells, such as cancer and atherosclerotic plaque. More information about the company, its technology, and products in development can be found on its website at www.pcy.com. Pharmacyclics[®], Antrin[®], Xcytrin[®] and the "pentadentate"

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NOTE: Other than statements of historical fact, the statements made in this press release about enrollment plans for our clinical trials, progress of and reports of results from preclinical studies, clinical development plans and product development activities are forward-looking statements, as defined in the Private Securities Litigation Reform Act of 1995. The words “believe,” “will,” “continue,” “plan,” “expect,” “intend,” “anticipate,” variations of such words, and similar expressions also identify forward-looking statements, but their absence does not mean that the statement is not forward-looking. The forward-looking statements are not guarantees of future performance and are subject to risks and uncertainties that may cause actual results to differ materially from those in the forward-looking statements. Factors that could affect actual results include risks associated with the initiation, timing, design, enrollment and cost of clinical trials; the fact that data from preclinical studies may not necessarily be indicative of future clinical trial results; whether texaphyrin technology will be shown to be safe or effective in detecting or identifying vulnerable plaque; the progress of research and development programs in this indication; our ability to establish successful partnerships and collaborations with third parties; the regulatory approval process in the United States and other countries; and future capital requirements. For further information about these risks and other factors that may affect the actual results achieved by Pharmacyclics, please see the company’s reports as filed with the U.S. Securities and Exchange Commission from time to time, including but not limited to its quarterly report on Form 10-Q for the period ended March 31, 2004. Forward-looking statements contained in this announcement are made as of this date, and we undertake no obligation to publicly update any forward-looking statement, whether as a result of new information, future events or otherwise.

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