



**FOR IMMEDIATE RELEASE**

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## **New technology could detect liver cancer from a simple blood sample**

*Results from VCU Massey Cancer Center study suggest that ApoCell's ApoStream® device effectively collects circulating liver cancer cells, has potential to advance diagnosis and treatment of the disease*

**Richmond, Va. – (March 30, 2012)** – New technology from ApoCell, Inc. that can detect liver cancer cells circulating in a patient's bloodstream may remove the need for potentially dangerous liver biopsies, be used as a screening tool and, ultimately, speed up drug development, according to a pilot study presented this week by Virginia Commonwealth University (VCU) [Massey Cancer Center](#) researcher Andrew Poklepovic, M.D., at the annual meeting of the American Association for Cancer Research (AACR) in Chicago, IL.

Poklepovic, an oncologist at VCU Massey in the Division of Hematology, Oncology and Palliative Care and an assistant professor of internal medicine at VCU [School of Medicine](#), examined ApoCell's ApoStream™ dielectrophoretic cell separation system in 10 patients with advanced hepatocellular carcinoma (HCC), or liver cancer. The study's results showed that the device could effectively collect circulating tumor cells (CTC) from patients while preserving the cells for analysis outside of the body.

"This is the first time circulating liver cancer cells have been collected without relying on magnetic beads to attach to a protein on the cell's surface," says Dr. Poklepovic. "While we tested the device in liver cancer, theoretically it could work in a number of different cancers."

ApoCell's capture technique relies on differences in electrical charges between cancer cells and normal blood cells. Due to the difference in charges, cancer cells are attracted to an electrical frequency emanating from a plate in the device whereas blood cells are repulsed. Alternative capture techniques rely on antibodies attached to magnetic beads that bind to epithelial cellular adhesion molecules (EpCAM) on the cancer cells. These alternatives are limited to collecting cancer cells that express significant amounts of EpCAM, which is expressed in less than a third of all HCC tumors. Additionally, the tumor cells are fixed in the alternatives' capture process and cannot be manipulated after they are collected.

In Poklepovic's study, different types of liver cancer cells were collected from the same patient, suggesting differences within the tumor cells that were previously unknown. The device may have also captured cells that have undergone epithelial-mesenchymal transformation (EMT), which is a process thought to be induced by chemotherapy and radiotherapy that increases the cells' resistance to these treatments.

“By analyzing the collected cells, we can monitor the patient’s response to treatment, view genetic changes within the cancer and obtain new insight into the diagnosis and evaluation of each patient’s unique disease,” says Poklepovic. “This technology opens the door to a deeper understanding of the mechanisms of liver cancer.”

Liver cancer is the third leading cause of cancer death in the world, and there is currently only one FDA approved drug – sorafenib – that has been shown to extend survival. Reliable CTC capture techniques could provide a non-invasive way to harvest liver cancer cells, potentially speeding up the development of new drugs.

VCU Massey Cancer Center is already using this technology to evaluate liver cancer cells’ response to a new treatment, combining sorafenib with another anti-cancer drug, vorinostat. There are also studies underway in prostate cancer.

Moving forward, Poklepovic plans to test the ApoCell device on additional samples and utilize genetic analyses to better understand the different types of cancer cells collected using this technique.

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**News directors:** Broadcast access to VCU Massey Cancer Center experts is available through VideoLink ReadyCam. ReadyCam transmits video and audio via fiber optics through a system that is routed to your newsroom. To schedule a live or taped interview, contact John Wallace, (804) 628-1550.

**About VCU Massey Cancer Center:** VCU Massey Cancer Center is one of only 66 National Cancer Institute-designated institutions in the country that leads and shapes America’s cancer research efforts. Working with all kinds of cancers, the Center conducts basic, translational and clinical cancer research, provides state-of-the-art treatments and clinical trials, and promotes cancer prevention and education. Since 1974, Massey has served as an internationally recognized center of excellence. It has one of the largest offerings of clinical trials in Virginia and serves patients in Richmond and in four satellite locations. Its 1,000 researchers, clinicians and staff members are dedicated to improving the quality of human life by developing and delivering effective means to prevent, control and ultimately cure cancer. Visit Massey online at [www.massey.vcu.edu](http://www.massey.vcu.edu) or call 877-4-MASSEY for more information.

**About VCU and the VCU Medical Center:** Virginia Commonwealth University is a major, urban public research university with national and international rankings in sponsored research. Located on two downtown campuses in Richmond, VCU enrolls more than 31,000 students in 211 certificate and degree programs in the arts, sciences and humanities. Sixty-nine of the programs are unique in Virginia, many of them crossing the disciplines of VCU’s 13 schools and one college. MCV Hospitals and the health sciences schools of Virginia Commonwealth University compose the VCU Medical Center, one of the nation’s leading academic medical centers. For more, see [www.vcu.edu](http://www.vcu.edu).

#### **About ApoCell, Inc.**

Based in Houston, Texas, ApoCell, Inc. is a privately-held specialty clinical research company. Founded in 2004, the firm is a leader in molecular biomarker detection and analysis and leverages its expertise in

the areas of oncology, diabetes, molecular diagnostics and drug development to measure biomarker signatures in clinical trial subjects. The company's proprietary methods provide early proof of mechanism of action and monitor the effectiveness of various types of drugs by measuring biomarker expression patterns in biopsies, blood and rare cell types. The company's facilities are CLIA-certified and compliant with applicable FDA regulations. Since inception, the company has participated in over 120 Phase I, II, and III clinical cancer drug trials for more than 80 sponsor clients worldwide. In 2011, the firm was named to the Inc. 5000 List of America's Fastest Growing Companies. More information is available at [apocell.com](http://apocell.com).