

## PharmaCyte Biotech Bioengineers Cell Line for Cannabis Program to Treat Cancers



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LAGUNA HILLS, CA, May 13, 2019 (BUSINESS WIRE) — [PharmaCyte Biotech, Inc.](#) (OTCQB: PMCB), a biotechnology company focused on developing targeted cellular therapies for cancer and diabetes using its signature [live-cell encapsulation technology](#), [Cell-in-a-Box®](#), today announced that its research partner, the University of Northern Colorado, has bioengineered a human cell line designed to activate a cannabinoid prodrug in its quest to develop a Cell-in-a-Box®/cannabinoid therapy for serious forms of cancer, particularly brain cancer.

Mark L. Rabe, MD, PharmaCyte's Director of Cannabis Program Development, commenting on the bioengineered cell line said, "We now have a cell line into which the gene for a putative cannabinoid prodrug-activating enzyme has been 'transfected' or inserted into the cell's DNA. The gene was synthesized *de novo* using knowledge of the underlying genetic code of the cell. The cell line is the same human cell line that will be used in PharmaCyte's planned clinical trial in locally advanced, inoperable pancreatic cancer (LAPC).

"The next step is to test the efficiency of the transfected cells in converting cannabinoid prodrugs into their active cancer-fighting forms. If the cells are suitably active, they would then be propagated to the point that they can then be encapsulated using the Cell-in-a-Box® technology. Also, we will continue our analysis of other genes of interest that could be used in a similar way."

PharmaCyte's Chief Executive Officer, Kenneth L. Waggoner, stated, "As we advance our Cell-in-a-Box® + ifosfamide therapy for LAPC with the U.S. FDA through preparation and submission of an Investigational New Drug application, we are pleased to report on the work done at the University of Northern Colorado. Such news as this serves to contribute to PharmaCyte's efforts as we work diligently to develop treatments for deadly diseases and build shareholder value."

The current objective of PharmaCyte's Cannabis Program is to develop targeted cannabinoid-based chemotherapy by bioengineering a cell line that produces a cannabinoid prodrug-activating enzyme, encapsulating this cell line utilizing the Cell-in-a-Box® platform and implanting the encapsulated cells near the site of a tumor. A cannabinoid prodrug would then be administered and activated at the site of the tumor where its anti-cancer effects are needed. PharmaCyte's research conducted by the University of Northern Colorado has confirmed that a cannabis-based approach may prove to be efficacious in the treatment of several different types of cancers.

### About PharmaCyte Biotech

PharmaCyte Biotech is a biotechnology company developing cellular therapies for cancer and diabetes based upon a proprietary cellulose-based live cell encapsulation technology known as "Cell-in-a-Box®." This technology will be used as a platform upon which therapies for several types of cancer and diabetes are being developed.

PharmaCyte's therapy for cancer involves encapsulating genetically engineered human cells that convert an inactive chemotherapy drug into its active or "cancer-killing" form. For pancreatic cancer, these encapsulated cells are implanted in the blood supply to the patient's tumor as close as possible to the site of the tumor. Once implanted, a chemotherapy drug that is normally activated in the liver (ifosfamide) is given intravenously at one-third the normal dose. The ifosfamide is carried by the circulatory system to where the encapsulated cells have been implanted. When the ifosfamide flows through pores in the capsules, the live cells inside act as a "bio-artificial liver" and activate the chemotherapy drug at the site of the cancer. This "targeted chemotherapy" has proven effective and safe to use in past clinical trials and reportedly results in no treatment related side effects.

PharmaCyte's therapy for Type 1 diabetes and insulin-dependent Type 2 diabetes involves encapsulating a human cell line that has been genetically engineered to produce, store and release insulin in response to the levels of blood sugar in the human body. The cell lines being studied are human liver cells, stem cells and beta islet cells. The encapsulation will be done using the Cell-in-a-Box® technology. Once the encapsulated cells are implanted in a diabetic patient, they are designed to function as a "bio-artificial pancreas" for purposes of insulin production.

### Safe Harbor

This press release may contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 that express the current beliefs and expectations of the management of PharmaCyte Biotech, including statements regarding the timing and commencement of our first Phase 2b clinical trial. Any statements contained herein that do not describe historical facts are forward-looking statements that are subject to risks and uncertainties that could cause actual results, performance and achievements to differ materially from those discussed in such forward-looking statements. Factors that could affect our actual results are included in the periodic reports on Form 10-K and Form 10-Q that we file with the Securities and Exchange Commission. These forward-looking statements are made only as of the date hereof, and we undertake no obligation to update or revise the forward-looking statements, except as otherwise required by law, whether as a result of new information, future events or otherwise.

More information about PharmaCyte Biotech can be found at [www.PharmaCyte.com](http://www.PharmaCyte.com). Information may also be obtained by contacting PharmaCyte's Investor Relations Department.

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