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PharmaCyte Biotech Proceeding with GMP Production of Pancreatic Cancer Product After Successful Changes to Manufacturing Process

LAGUNA HILLS, Calif.--(BUSINESS WIRE)-- [PharmaCyte Biotech, Inc.](#) (OTCQB: PMCB), a clinical stage 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 it has made further important progress in optimizing the complete manufacturing process, including significant improvement of the growth characteristics of the cells from PharmaCyte's Master Cell Bank (MCB) after encapsulation. These encapsulated cells will be used, in combination with low doses of the cancer prodrug ifosfamide, for the treatment of locally advanced, non-metastatic, inoperable pancreatic cancer (LAPC).

PharmaCyte can now provide additional information as an update to its recent press release on the production of its clinical trial product called, "CypCaps." PharmaCyte, together with its team of experts, has successfully implemented additional changes to the manufacturing process that have resulted in a remarkably improved and more reproducible encapsulated live cell product.

Use the link below to view a picture that captures the growth process post encapsulation from day 8 to day 22 of the cells from the MCB. In the linked picture, you will see the cells from the MCB growing in the capsules over the course of 22 days. On day 22 the cells in the capsules have stopped growing because of contact inhibition and have been placed into syringes and frozen. They have also been thawed and tested for viability and the level of enzymatic activity necessary to convert ifosfamide from its inactive form to its cancer-killing form. Both tests met the required specifications: <https://pharmacYTE.com/master-cell-bank-cell-growth-post-encapsulation>

As previously reported, the cells from PharmaCyte's MCB that were produced by Eurofins Lancaster Laboratories showed slightly different growth properties when compared to the cells that were previously tested by Austrianova from PharmaCyte's Research Cell Bank, a finding that is not unusual when a new cell bank is established. Although minor in nature, these different growth characteristics of the MCB cells initially affected many of the steps required for the overall production process of the CypCaps, necessitating counter measures to re-align and restructure the production process.

PharmaCyte's Chief Executive Officer, Kenneth L. Waggoner, said, "With these changes in place, GMP production of the CypCaps for PharmaCyte can now proceed at Austrianova's manufacturing facility in Bangkok, Thailand.

"This is great news for everyone who has worked so diligently through what has been a

complicated and meticulous process to get the production of our clinical trial product exactly right before we approach the FDA with an Investigational New Drug application. It's also great news for our many shareholders who have waited patiently as we navigated these uncharted waters with encapsulating the live cells from our MCB."

About PharmaCyte Biotech

PharmaCyte Biotech is a clinical stage 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 results in little to 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. PharmaCyte is exploring the use of genetically modified liver cells, stem cells and/or 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 will function as a "bio-artificial pancreas" for purposes of insulin production.

Safe Harbor

This press release contains forward-looking statements, which are generally statements that are not historical facts. Forward-looking statements can be identified by the words "expects," "anticipates," "believes," "intends," "estimates," "plans," "will," "outlook" and similar expressions. Forward-looking statements are based on management's current plans, estimates, assumptions and projections, and speak only as of the date they are made. We undertake no obligation to update any forward-looking statement because of new information or future events, except as otherwise required by law. Forward-looking statements involve inherent risks and uncertainties, most of which are difficult to predict and are generally beyond our control. Actual results or outcomes may differ materially from those implied by the forward-looking statements due to the impact of numerous risk factors, many of which are discussed in more detail in our Annual Report on Form 10-K and our other reports filed with the Securities and Exchange Commission.

More information about PharmaCyte Biotech can be found at www.PharmaCyte.com. Information may also be obtained by contacting PharmaCyte's Investor Relations Department.

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