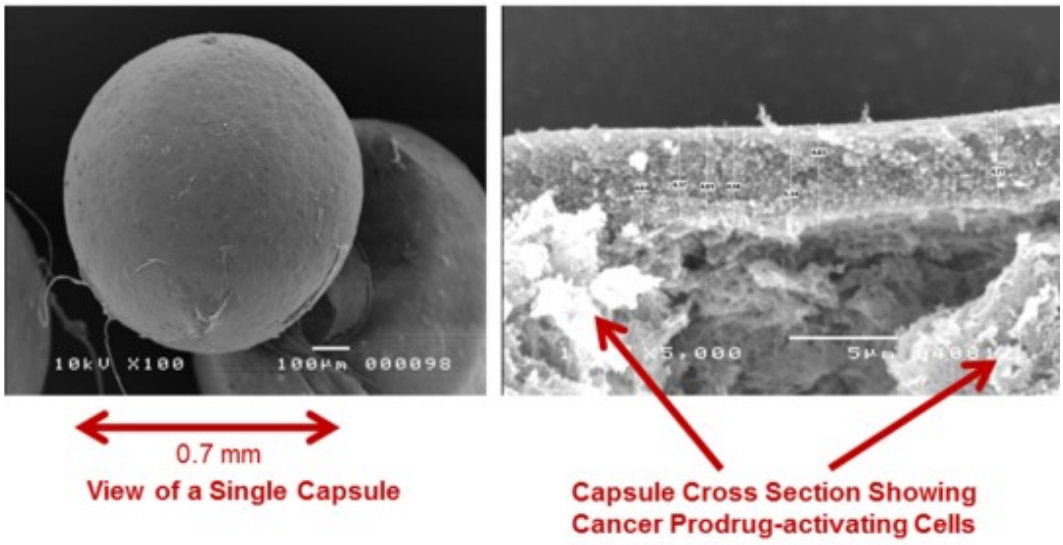
PharmaCyte Biotech Research Identifies Enzyme Activity for Cannabinoid-Based Therapy to Fight Cancer

17 OCT 17



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 its research partner, the University of Northern Colorado (UNC), has identified an organism whose genome contains the genetic code for production of an enzyme capable of activating a cannabinoid prodrug into its active cancer-killing form.

“We are pleased that UNC has taken us one step closer to developing cannabinoid-based therapies to combat cancer utilizing our proprietary Cell-in-a-Box® live-cell encapsulation technology,” commented PharmaCyte’s Chief Executive Officer, Kenneth L. Waggoner. “PharmaCyte’s innovative Cannabis Program has established PharmaCyte as a serious player in the medical *Cannabis* sector, and we are exploring additional strategic relationships to advance product development and commercialization.”

PharmaCyte’s Cannabis Program has had two primary areas of focus. The first is confirming the anti-cancer activity of cannabinoids (constituents of the *Cannabis* plant), such as tetrahydrocannabinol (THC) and cannabidiol (CBD). UNC’s research has confirmed that a purified cannabinoid showed a potent dose-dependent decrease in cell viability for various cancers, suggesting that this cannabinoid exhibits significant anti-proliferative effects (stops the growth of cancer cells). This activity has been demonstrated in glioblastoma (brain), pancreatic, breast, lung, colon and melanoma cancer cell lines.

The second area of focus is in finding an enzyme capable of converting an inactive, side-effect-free, cannabinoid prodrug into its active cancer-killing form. The research team at UNC has screened numerous cell lines and numerous enzymes. As result of this extensive work, an organism has been identified that has been confirmed to produce an enzyme capable of catalyzing the desired cannabinoid-prodrug-activating reaction. Work is now underway to locate the enzyme’s gene.

Dr. Mark L. Rabe, PharmaCyte’s Director of Cannabis Program Development, commented, “Our work at UNC continues to bear fruit. The work with cancer cell lines not only confirmed cannabinoid anti-cancer activity, it generated important dosing data. The work to identify the needed activating enzyme has been intensive and time-consuming, and we are pleased to have identified a front-running candidate that has exhibited the desired activity.”

Once the location of the activating enzyme gene has been determined within the organism’s genome, a series of steps will occur to amplify and clone the gene and confirm its activity. The gene will then be used to bio-engineer a human cell line that will then become a cannabinoid-prodrug-activating enzyme “factory.” Importantly, the parental human cell line that will be utilized is the same cell line being utilized in PharmaCyte’s therapy for pancreatic cancer. Upon confirmation of the desired activity by the bio-engineered cell line, the final steps include live-cell encapsulation with the Cell-in-a-Box® technology and validation.

Clinically, targeted cannabinoid-based chemotherapy would be accomplished by implanting the encapsulated bio-engineered cells near the site of a tumor, along with administration of a cannabinoid prodrug which would become activated at the site of the tumor by an enzyme produced by the encapsulated cells. The end goal is better efficacy than existing therapies with few, if any, side effects.

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 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 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.

View source version on businesswire.com: http://www.businesswire.com/news/home/20171017005486/en/

Investor Relations:
PharmaCyte Biotech, Inc.
Dr. Gerald W. Crabtree
Investor Relations Department
917.595.2856
Info@PharmaCyte.com

Source: PharmaCyte Biotech, Inc.

Posted in News Posted by Admin

Contact Us

PharmaCyte Biotech Inc.
23046 Avenida de la Carlota, Suite 600
Laguna Hills, California 92653
Office Number: 917.595.2850
Facsimile Number: 917.595.2851
Email: info@PharmaCyte.com

Latest News

PharmaCyte Biotech CEO Visiting GMP Facility with Cellular Biology Consultant During Production of Pancreatic Cancer Product
4 days ago

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

Subscribe to Our Mailing List

* indicates required

Email Address *

First Name

Last Name

Email Format

html

text

Subscribe

To search type and hit enter...