



PHARMACYTE BIOTECH, INC.

Orphan Drug Status and Upcoming Milestones to Drive Stock Price

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PHARMACYTE BIOTECH, INC. (OTCQB – PMCB – \$0.1145)

NT Price Target: \$0.45, LT Price Target \$1.80

Rating: Speculative Buy

COMPANY SNAPSHOT

PharmaCyte Biotech is a clinical stage biotechnology company focused on developing and preparing to commercialize treatments for cancer and diabetes based upon a proprietary cellulose-based live cell encapsulation technology known as Cell-in-a-Box®. This unique and patented technology will be used as a platform upon which treatments for several types of cancer, including advanced, inoperable pancreatic cancer, and diabetes are being built.

KEY STATISTICS

Price as of 3/25/15	\$0.1145
52 Week High – Low	\$0.493 - \$0.095
Est. Shares Outstanding	707.8M
Market Capitalization	\$81.0M
3 Mo Avg. Vol.	2,015,000
Exchange	OTCQB

COMPANY INFORMATION

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 Silver Spring MD 20904

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Email: info@PharmaCyteBiotech.com

INVESTMENT HIGHLIGHTS

PharmaCyte Biotech is an innovative biotechnology company whose therapeutic technology platform could emerge as the go-to treatment of choice for different types of cancers and diabetes representing billions of dollars in market opportunity.

The Company’s flagship technology, Cell-in-a-Box®, has recently been granted Orphan Drug Status by the FDA for the treatment of advanced, inoperable pancreatic cancer when used in combination with the chemotherapy drug ifosfamide at one-third the dose normally given. This designation serves as a major boost to PMCB’s development efforts, its standing as a key player in the pancreatic cancer treatment arena and validates the Cell-in-a-Box® technology.

PMCB has achieved enviable developmental progress over the past year and the launch of a series of clinical trials in 2015 should raise the Company’s profile and its valuation. These milestones include mid-stage and preclinical studies for the treatment of pancreatic cancer and its serious and debilitating symptoms, and for diabetes. Plus, PMCB is engaged in the study of cannabinoids (constituents of the Cannabis plant) in combination with the Cell-in-a-Box® technology as treatments for deadly cancers such as brain cancer.

Based on our pancreatic treatment peer group analysis alone, PMCB’s shares appear greatly undervalued and grossly overlooked. Considering the potential technology portability into the treatment of diabetes, a disease affecting millions with no cure, and other forms of cancer, the true future value of the technology and PCMB are likely far greater than a typical oncology treatment entity. We rate these shares Speculative Buy with a near term price target of \$0.45 and a long term target price of \$1.80.

NEW NAME, NEW DIRECTION, MAJOR PROGRESS

We initiated coverage of Nuvilex, Inc., the Company's name prior to its early 2015 name change to PharmaCyte Biotech, Inc. in May 2011 with a Speculative Buy rating. Although we published dozens of reports, updates and articles on the Company, we have not published on the Company since the first quarter of 2014. Given the substantive operational and developmental progress achieved over the past 12 months, and future events ahead, we deemed it was the right time to publish an updated report. Moreover, we believe that these shares are undervalued in light of the Company's increasingly growing profile in the medical community due to its current and future activity and visibility on the clinical trial front. One could argue that PMCB is in better positioning now than a year ago, when it traded much higher.

Key Investment Points:

- PMCB owns exclusive rights to a technology that could emerge as the first universal therapy and treatment of choice for multiple cancers and diabetes, potentially worth billions in annual sales down the road.
- Favorable legacy and updated results from early- mid-stage pancreatic cancer clinical trials will be followed by the commencement of a Phase 2b clinical trial in 2H15.
- The high profile and coveted Orphan Drug designation was granted by the FDA in December, 2014 to PMCB's pancreatic cancer treatment.
- Preclinical trials for abdominal cancers using the Company's platform technology were designed, in part, by the leading authority on pancreatic cancer, Dr. Daniel Von Hoff, and conducted by America's leading Contract Research Organization that specializes in oncology. This substantially raises the PMCB profile and could result in future, fast-tracked trials.
- A series of steps are in progress that will lead toward diabetes clinical trials, which, in turn, represent a substantial market opportunity.
- Management is actively engaged in pursuing the use of compounds from the Cannabis plant (known as "cannabinoids") in combination with its Cell-in-a-Box® platform technology to treat deadly cancers where there are no substantially effective treatments on the market.
- With multiple shots on goal we believe that PMCB's stock is overlooked and undervalued, relative to its peer group.

THE LAY OF THE LAND

In 1971, U.S. President Richard Nixon proclaimed a war on cancer. In the 40+ years since that proclamation, the jury is still out on whether or not we are winning the battle. After all, the National Cancer Institute (NCI), charities, foundations, and company investments targeting anti-cancer research have likely spent well over \$100-billion in funding research and development projects. To emphasize this, the budget at the NCI for just 2014 was over \$5 billion.¹ Over the past several decades, cancer screening and prevention have been huge tools in the cancer fight, but there is still no single approved treatment that could be considered a "holy grail." In fact, there are multiple approaches to cancer treatment that may be a part of radiation or chemotherapy. The American Cancer Society highlights the most common approaches in practice and under development, today. These include immunotherapy and targeted therapy.

¹ <http://www.cancer.gov/cancertopics/factsheet/NCI/research-funding>

“Doctors use chemotherapy to kill cancer cells. The term chemotherapy refers to the use of drugs to kill cancer cells. Usually, the drugs are given into a vein (or IV) or they’re taken by mouth. Chemo drugs then travel through the body in the bloodstream, reaching cancer cells that may have spread (metastasized) from the tumor to other places in the body.”

“**Immunotherapy** is treatment designed to boost the cancer patient’s own immune system to help fight the cancer. **Targeted therapy** is treatment that targets the cancer cells and causes less damage to healthy cells...”²

Some of these approaches, especially targeted therapy, combine treatment methods in order to stop cancer cells from spreading, promote cell death, kill cells, etc. While some cancers are treatable and carry favorable survivability rates, in other cases, therapies have been designed to incrementally raise survivor rates and increase the quality of life, in untreatable or terminal patients. Some of the companies that have developed such treatments have received Federal Drug Administration (FDA) approval for their treatments. However, since the current overall relative state of cancer treatment is poor, there are hundreds of ongoing and pending trials whose objectives are to move along the developmental path to ultimately obtain FDA approval to use their therapy for treatment. If successful, we believe that PMCB could emerge as the universal therapy or go-to treatment for multiple cancers.

PHARMACYTE BIOTECH: THE VIEW FROM 35,000 FEET

A number of years ago, a company now based in Singapore developed an approach to treat varying forms of cancer and diabetes. Multiple animal studies and clinical trials were completed, including a successful Phase I/II clinical trial to treat inoperable pancreatic cancer in the early-2000’s. Following a series of transactions ending in 2013, PhamaCyte Biotech acquired exclusive, worldwide right to use a proprietary cellulose-based live cell encapsulation technology for the development of treatments for all forms of cancer and exclusive, worldwide license to use the same technology to treat diabetes, using the trademarked name for the technology, *Cell-in-a-Box*®. In 2014, the Company also acquired an exclusive, worldwide license to use that same technology in combination with compounds from constituents of *Cannabis* for the development of disease treatments.³

THE CELL-IN-A-BOX® TECHNOLOGY

This patented live-cell encapsulation technology enables the targeted placement of almost any cell type into the body after enclosing the cells inside tiny beads about the size of a pinhead. This platform technology does not encapsulate drugs, but live human cells that have been genetically engineered. Depending on the cell type placed into the beads, or encapsulated, these cells enable continuous and/or controlled production and release of targeted therapeutic molecules via an innovative delivery system. The capsules enclosing the live cells are made largely from cellulose a bio-inert, non-toxic, biocompatible material that protects the encapsulated cells from attack by the body’s defense mechanisms. At the same time, the beads provide a microenvironment that enables encapsulated cells to survive for long periods of time, which is a major advantage over other

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<http://www.cancer.org/treatment/understandingyourdiagnosis/talkingaboutcancer/whensomeoneyouknowhascancer/when-somebody-you-know-has-cancer-cancer-treatment-questions>

³ <http://yahoo.brand.edgar-online.com/displayfilinginfo.aspx?FilingID=10563865-1072-89972&type=sect&TabIndex=2&dcn=0001019687-15-000953&nav=1&src=Yahoo>

encapsulation technologies. In fact, Cell-in-a-Box® capsules containing live cells can be frozen and stored for over 5 years and, when thawed, the capsules are undamaged and approximately 95% of the encapsulated cells are alive and fully functioning. There is no other encapsulation technology on the market that has these properties. These properties are critical for an extended shelf life for the product as well as deployment to distant locations around the world to treat patients.

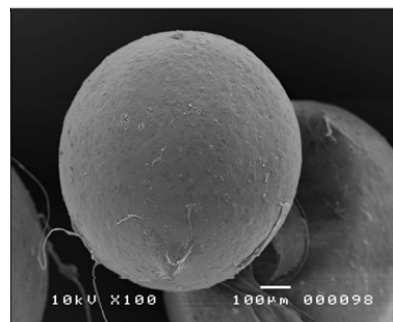
By using the technology, it is possible to create small cell-based factories that can be made to 1) convert *inactive* chemotherapy drugs into *active* ones, 2) produce bioactive therapeutic substances, and for numerous other applications. In the case of the drug-converting “factories” and their use in cancer therapy, capsules with the activating cells are placed as close to the site of the tumor as possible to create a continuous high concentration of active cancer fighting molecules and in effect provide a dramatically elevated dose of active drugs right where they’re needed, the tumor.⁴ This is targeted chemotherapy in every sense of the word.

The encapsulation of living cells using the Cell-in-a-Box® technology is a multi-step process. The live cells to be encapsulated are first suspended in a medium that contains a proprietary polymer and sodium cellulose sulfate. This suspension is passed through a droplet-forming machine and the resulting droplets fall into a solution containing another polymer. Immediately, as the two polymers interact, a membrane forms around each droplet. This ultimately develops into a “shell” around the droplet, resulting in a spherical capsule 0.7-0.8 mm in diameter. For pancreatic cancer, each capsule ultimately contains about 10,000 cells. This number can differ depending upon the size of the cells encapsulated and for what purpose they are to be used.⁵

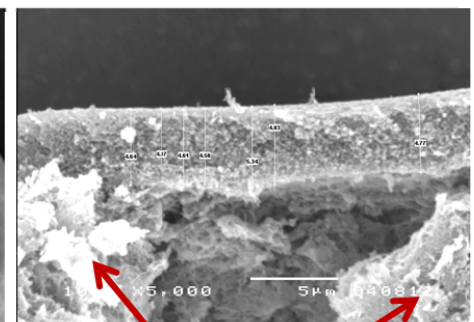
Image 1: Cell-in-a-Box Beads

Image 2: Prodrug Cells

Source: www.PharmaCyteBiotech.com



0.7 mm
 View of a Single Capsule



Capsule Cross Section Showing
 Cancer Prodrug-activating Cells

PANCREATIC CANCER AND TREATMENT MARKET

Gemzar® (also known as gemcitabine), first approved in 1997, is still the only drug approved to date as a single agent for the treatment for advanced pancreatic cancer. According to the American Cancer Society, 49,000 people in the U.S. are diagnosed with pancreatic cancer each year and 41,000 die from the disease.⁶ Since the gemcitabine therapy results alone leave a lot to be desired, a drug called Abraxane®, produced and sold by Celgene (NASDAQ – CELG - NR) is now used in combination with gemcitabine. This combination has been the “gold standard” for the treatment of advanced, inoperable pancreatic cancer since its approval by the FDA in 2013. Abraxane® is a nanoparticle formulation of the widely used cancer drug paclitaxel (Taxol®) with

⁴ <http://www.pharmacytebiotech.com/live-cell-encapsulation/>

⁵ <http://www.pharmacytebiotech.com/>

⁶ <http://www.cancer.org/cancer/pancreaticcancer/overviewguide/pancreatic-cancer-overview-key-statistics>

albumin and it has been a big seller, with \$848 million in total cancer treatment sales in 2014,⁷ even though the use of the gemcitabine/Abraxane combination for pancreatic cancer still only increases average survival time of patients with the disease incrementally as compared to gemcitabine alone.

Results from the pivotal Phase 3 study used to obtain regulatory approval of the gemcitabine/Abraxane® combination revealed that 35% people on the combination were alive at the end of the first year compared to only 22% who just underwent treatment with gemcitabine alone. Those were solely on gemcitabine chemotherapy survived for only 6.7 months compared to a median of 8.5 months among those who also took Abraxane®.⁸ To put this in perspective, the price tag for Abraxane®, is a hefty \$28,000 a year for a small increase in survival rate, which is a main reason why the U.K. has not approved it for sale.⁹ Based on these figures, one can assume that at similar prices, the market size for a product used in conjunction with gemcitabine for pancreatic cancer is nearly \$1 billion a year. It is not unreasonable therefore to project that a treatment such as PCMB's pancreatic cancer treatment that may prove to be as effective from an antitumor point of view as the gemcitabine/Abraxane® combination and is safer to use might also have a market size in the hundreds of millions.

CELL-IN-A-BOX® – EFFECTIVE IN TRIALS

The combination of the Cell-in-a-Box® technology with the anti-cancer drug ifosfamide has been shown in Phase I/II trials conducted in the early 2000s to be very effective in treating patients with advanced inoperable pancreatic cancer. When the data from those trials were compared with historical data for Gemzar® alone (the only drug approved at the time to treat the disease), the median survival time was increased to 11 months (from 5.7 months for Gemzar®) using the PMCB treatment and the one-year survival rate with treatment (36%) was double that seen with Gemzar® (18%). Tumor sizes were also reduced from 25-50% in 4 out of 14 patients and no serious treatment-related side-effects were experienced using the Cell-in-a-Box® plus ifosfamide combination. This is because only one-third the dose of ifosfamide normally employed in treating other forms of cancer was used in this Phase I/II trial because of the unique nature of the Cell-in-a-Box®-targeted treatment.

For a second Phase II trial more recently led by the same principal investigator as the previous trial, results were published in the medical journal *Pharmaceutics*.¹⁰ In total, 27 patients with advanced, inoperable pancreatic cancer have been treated with the Cell-in-a-Box®/ifosfamide combination – 14 in the Phase I/II clinical trial and 13 in the second Phase II clinical trial. For the second Phase II trial, the dose of ifosfamide was double that used in the Phase I/II trial. Surprisingly, doubling the dose of ifosfamide did not increase the antitumor effectiveness of the treatment but it substantially increased the severity of the side effects associated with treatment. Therefore, the combination of Cell-in-a-Box® and one-third of the “normal” dose of ifosfamide will be used for future clinical trials. With this in mind, a future Phase 2b trial in Australia is slated to commence in 2H15.

⁷ <http://finance.yahoo.com/news/celgene-reports-fourth-quarter-full-123000735.html>

⁸ <http://www.medicalnewstoday.com/articles/255388.php>

⁹ <http://www.firstwordpharma.com/node/1234052#axzz3Utv1TR5l>

¹⁰ <http://www.pharmacytebiotech.com/nuvilex-announces-publication-combined-results-initial-phase-12-clinical-trial-second-phase-2-clinical-trial-cell-boxr-plus-ifosfamide-combination-patients-advan/>

ORPHAN DRUG STATUS

The Company's flagship product for pancreatic cancer, Cell-in-a-Box® in combination with ifosfamide, has recently been granted Orphan Drug Status by the FDA for the treatment of advanced, inoperable pancreatic cancer. This designation serves as a major boost to PMCB's development efforts, standing as a key player in the anti-cancer arena and validates the use of the Cell-in-a-Box® technology in combination with low-dose ifosfamide as a treatment for advanced inoperable pancreatic cancer which may become the treatment of choice for advanced pancreatic cancer.

Orphan drug designation in the U.S. is given to drugs or treatments for "rare," life-threatening diseases. In the U.S., a rare disease is defined as one that is diagnosed in less than 200,000 people in the U.S. In addition, in the U.S. pancreatic cancer can be classified as a life-threatening disease because, even with the best available chemotherapy, patients with advanced pancreatic cancer are destined to live less than one year on average and the 5-year survival rate is less than seven percent.

Receiving orphan drug designation for PMCB's pancreatic cancer treatment carries with it up to 7 years of marketing exclusivity in the U.S. In addition, special assistance from the FDA in the development of the treatment for pancreatic cancer and exemptions or reductions in regulatory fees and taxes can accompany the designation.¹¹

OTHER CANCER TREATMENTS

Translational Drug Development (TD2), whose Chief Development Officer is Dr. Daniel Van Hoff, is arguably the leading authority on pancreatic cancer. PCMB recently referred to its very positive results from PMCB's first preclinical study (4 groups of tumor-bearing mice) that was conducted by TD2 in the U.S. to determine the ability of Cell-in-a-Box® plus low-doses of ifosfamide combination to delay the accumulation of malignant ascites fluid produced by abdominal cancers. The accumulation of this fluid that occurs in those with pancreatic as well as other abdominal cancers can be very problematic. It is painful when it occurs, and the gross swelling of the abdomen that it causes can be very problematic for patients because it can cause breathing difficulties and may result in new malignant tumors being formed. Therefore, this fluid must be removed on a regular periodic basis; this is a difficult process for the oncologists, is painful for the patients and can be quite expensive. In this first preclinical study in the U.S of Cell-in-a-Box®, PCMB's treatment for pancreatic cancer proved to be effective in reducing the rate of accumulation of ascites fluid.

An expanded study (12 groups of mice) is currently being conducted by TD2. This study is designed to elucidate parameters that will be needed for a future clinical trial that may result in the only treatment that can slow down the accumulation of malignant ascites fluid. It is expected that the study will be completed in the next two months. The target date for the initiation of the Phase 1 clinical trial on ascites in the U.S. is the third quarter of 2015.¹²

In addition, a Phase 1 clinical trial using PMCB treatment for advanced pancreatic cancer to control the unbearable and sometimes untreatable pain from advanced pancreatic cancer is being planned and is expected to also start in the third quarter of 2015.

¹¹ <http://www.pharmacytebiotech.com/fda-grants-orphan-drug-designation-nuvilex-pancreatic-cancer-treatment/>

¹² <http://finance.yahoo.com/news/pharmacyte-biotech-provides-corporate-developments-123000857.html>

In July 2014, in the medical journal PLOS ONE, the Company announced very encouraging results obtained in a veterinary Phase I/II trial in dogs bearing spontaneously occurring mammary cancers. This is a good animal model for breast cancer in humans. About 50% of the dogs in this trial were treated with the combination of Cell-in-a-Box® plus cyclophosphamide, a “sister” drug to the ifosfamide that is part of PMCB’s pancreatic cancer treatment, and the other dogs were treated with only cyclophosphamide. Cyclophosphamide, normally used to treat mammary cancers in dogs, is also used as one of the components of the majority of multi-drug combination chemotherapy regimens used to treat breast cancer in humans. The results of this dog study reflect the potentially remarkable results that can be achieved with PMCB’s treatment of solid tumors using its Cell-in-a-Box® technology.

“Based upon promising preclinical studies, a clinical trial was performed in which encapsulated cells overexpressing cytochrome P450 enzyme isoform 2B1 were implanted around malignant mammary tumours arising spontaneously in dogs. The dogs were then given cyclophosphamide, one of the standard chemotherapeutic agents used for the treatment of mammary tumours. The dogs were assessed for a number of clinical parameters as well as for reduction in tumour size. The treatment was well tolerated with no evidence of adverse reactions or side effects being associated with the administration of the encapsulated cells. Reductions in tumour size of more than 50% were observed for 6 out of the 11 tumours analysed while 5 tumours showing minor responses, i.e. stable disease. In contrast, the tumours that received cyclophosphamide alone showed only stable disease. Taken together, this data suggests that encapsulated cytochrome P450 expressing cells combined with chemotherapy may be useful in the local treatment of a number of dog mammary tumours and support the performance of further clinical studies to evaluate this new treatment.”¹³

It should be noted that results of the aforementioned PMCB Phase I/II clinical trial involving dogs with spontaneously-occurring mammary tumors were remarkably similar to its well-known human Phase I/II pancreatic cancer trial. However, since both cyclophosphamide and ifosfamide are “sister” drugs and are converted to their cancer-killing forms in the same way, the same type of encapsulated cells were used in both the pancreatic and mammary cancer studies. As in the human pancreatic cancer trials, the capsules were well tolerated in the mammary cancer trials, with no major safety issues. Importantly, significantly greater degrees of tumor shrinkage were observed in those dogs treated with encapsulated cells in combination with cyclophosphamide versus those dogs receiving cyclophosphamide alone. In the case of a dog diagnosed with two tumors, the tumor that did not receive encapsulated cells but received cyclophosphamide alone was reduced by only 14% while the tumor receiving encapsulated cells plus cyclophosphamide showed a 70% reduction in tumor volume.

Therefore, it is evident that the results of this animal trial could lead to a future successful human breast cancer clinical trial that utilizes the Company’s live-cell encapsulation platform.

Considering that Celgene’s Abraxane® was initially approved for breast cancer and then pancreatic cancer, there appears to be a clear relationship between efficacy of treatments for the two cancers. Prevention and treatment of breast cancer that is diagnosed in 200,000+ women and kills over 40,000 in the U.S. alone each year is now a multi-billion dollar industry unto itself, highlighted by mammograms, other tests, involvement of multiple non-profit organizations, etc.¹⁴ Moreover, breast cancer appears to be affecting younger and younger women each year. As a result, when firms gain even modest success in their quest for ever more effective

¹³ <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0102061>

¹⁴ http://www.breastcancer.org/symptoms/understand_bc/statistics

treatment for breast cancer, their stocks enjoy huge gains because of the market size and high profile of the disease. Therefore, progress in this treatment category could potentially prove to be worth substantial sales.

DIABETES

As noted above, PMCB acquired the exclusive worldwide rights to use the cellulose-based live-cell encapsulation technology for the development of treatments for diabetes. **This treatment category represents an even larger opportunity for the company than its current cancer treatment initiatives, as there is no cure for diabetes and the current insulin replacement technologies certainly leave much room for improvement, as anyone with insulin-dependent diabetes will attest.**

According to a report by Transparency Market Research, entitled '[Global Diabetes Devices Market and Diabetes Drugs Market – Industry Scenario, Trends, Analysis, Size, Share and Forecast, 2011 - 2018](#),' the global diabetes market for therapeutic devices and drugs is expected to reach US \$114.3 billion by 2018.

Since the year 2000, efforts have been made to develop treatments for Type 1 diabetes that do not involve multiple daily injections of insulin to control the blood sugar levels of individuals suffering from this disease. In individuals with Type 1 disease, the islet cells of the pancreas have been destroyed by an autoimmune disease and the pancreas cannot produce the insulin required to control blood sugar levels. Thus, such individuals can suffer the serious and debilitating consequences of the disease which include peripheral nerve damage, damage to the retinas of the eyes, kidney problems and cardiac damage.

Initially, in an effort to replace the insulin producing cells of the pancreas that had been destroyed, “naked” pancreatic islet cells were transplanted into humans with Type 1 diabetes, but these cells were soon destroyed by the body’s immune system.

To avoid such immune system damage, islet cells from humans and from pigs have been encapsulated before implantation. However, the success of this approach is somewhat limited because the encapsulation material used in such studies is often agarose, a derivative of seaweed. Compared to PharmaCyte Biotech’s cellulose-based capsules, agarose-based capsules have a rather limited lifetime in the body and need to be replaced, and the insulin-producing capacity of the islet cells within such capsules is difficult to maintain. In addition, the use and/or supply of human or pig islet cells can be very problematic.

PharmaCyte Biotech has approached these problems by deciding to use the Cell-in-a-Box® technology to encapsulate insulin-producing cells that are not pancreatic islet cells but rather genetically engineered human cells. For PharmaCyte Biotech’s initial efforts to develop a treatment for Type 1 diabetes, it has obtained the rights to a human, non-pancreatic cell line, known as Melligen cells, developed by researchers in Australia. Preclinical studies have been designed to test these cells, after encapsulation using the Cell-in-a-Box® technology, for their ability to produce insulin “on demand” under a variety of conditions, as well as to fulfill other criteria that will be required before they can be used in humans; these studies are in progress. In the event that these cells are not acceptable for use, attempts will be made to develop an insulin-producing cell line that meets all of the requirements for encapsulation and then can be used in clinical trials in humans with insulin-dependent diabetes.¹⁵

A proof of principle animal study demonstrated that when cells that produce insulin were transplanted into diabetic animals, the animals’ elevated blood sugar levels became normalized and remained stable for the

¹⁵ <http://www.pharmacYTEbiotech.com/research-development/>

duration of one six-month study. This event indicates that the encapsulated cells produced insulin in response to the higher than normal blood glucose levels in the animals. Therefore, **the encapsulated cells appear to have acted as an artificial or replacement pancreas which has tremendous value in treatment of diabetes.**

Armed with these valuable study results, management will likely take steps that will ultimately lead to the initiation of human clinical trials which, in turn, will serve to substantially raise the company's value and its profile. PMCB is clearly not a "one-trick pony" and now has multiple shots on goal with the rights to use the cellulose-based live-cell encapsulation technology in developing treatments for both diabetes and cancer.

Studies are in progress at the University of Veterinary Medicine, Vienna to determine that the Melligen (human, non-pancreatic, insulin-producing) cells do not produce tumors and to establish parameters by which these cells (human, non-pancreatic, insulin-producing) can produce and store insulin in response to glucose levels in their surroundings. To facilitate all of the studies that will be needed before clinical trials can be undertaken, PCMB formed a Diabetes Consortium that includes prominent investigators experienced in the diabetes arena from institutions in several countries. Participants in the Diabetes Consortium will be involved in all phases of the development of PharmaCyte Biotech's treatment for insulin-dependent diabetes. Dr. Eva-Maria Brandtner has been appointed Director of the Diabetes Research Program. Dr. Brandtner, presently at the Vorarlberg Institute for Vascular Investigation and Treatment (VIVIT) in Austria, was responsible for studies with the Melligen cells during her previous tenure with PCMB's partner, Austrianova, as its Chief Scientist.¹⁶

CANNABINOID RESEARCH

With the relaxation in many states in the U.S. of rules against the use of *Cannabis* or its constituents (cannabinoids) for medicinal purposes, many entities have emerged over the recent past that are involved in the growing, production, sales and/or marketing of Cannabis. PharmaCyte Biotech will not be involved in any such activities. Rather, PharmaCyte Biotech will attempt to use cannabinoids or cannabinoid-like compounds in combination with the Cell-in-a-Box® encapsulation technology to develop "targeted" treatments for serious and deadly diseases; these include brain cancer and pancreatic cancer.

It has been known for many years that Cannabis and cannabinoids can be useful for treating the pain, nausea and vomiting that are associated with some forms of cancer. There are drugs already on the market based on cannabinoids for such purposes. More recently, cannabinoids have been shown to be effective anticancer agents against a wide variety of cancer types in preclinical studies in the laboratory and in animal cancer model systems. PharmaCyte Biotech believes that cannabinoids or cannabinoid-like compounds may be used in combination with the Cell-in-a-Box® technology as cancer treatments in much the same way that the Cell-in-a-Box® plus ifosfamide combination will be used to treat pancreatic cancer.

Initial efforts to develop such treatments have been under way for some time by researchers at the University of Northern Colorado, funded by PharmaCyte Biotech. Already, "state-of-the-art" methods have been developed there for the separation of cannabinoids and cannabinoid-like compounds, and attempts are currently being made to identify a type of cell that can activate such compounds to their cancer-killing forms. If a suitable cell type cannot be identified, one will be designed by gene transfection in much the same way that the ifosfamide-activating cells were developed for PharmaCyte Biotech's pancreatic cancer treatment. Once the cannabinoid-like candidates have been identified and the appropriate cells have been developed, the cells

¹⁶ <http://finance.yahoo.com/news/pharmacYTE-biotech-provides-corporate-developments-123000857.html>

will be encapsulated using the Cell-in-a-Box® and the combinations will be tested in appropriate animal model systems (of brain and pancreatic cancer, for example) that are available to PharmaCyte Biotech.

The medical marijuana arena is enjoying a great deal of attention, a high market valuation and a growing cadre of investors and entrepreneurs as many prognosticators forecast huge revenue growth over the next 3 years and as more states pass medical marijuana legislation. For example, the independent financial news and data firm Sea Change Strategy estimates that the U.S. medical marijuana market is worth \$1.7 billion and could reach \$8.9 billion by 2016. PCMB is building an impressive Scientific Advisory Board, and this Board will include Dr. Mark Rabe and Dr. Garret Yount, both of whom will play major roles in the development of cannabinoid-based disease treatments. Other members of the Scientific Advisory Board, led by Dr. Matthias Löhr of the famed Karolinska Institute in Stockholm, Sweden and an eminent European gastroenterologist/oncologist will play a major role in the company's future endeavors. That Board's experience with cannabinoids, cancer drugs and enzymology could prove to be invaluable in pursuing the Company's goals.

UPCOMING MILESTONES

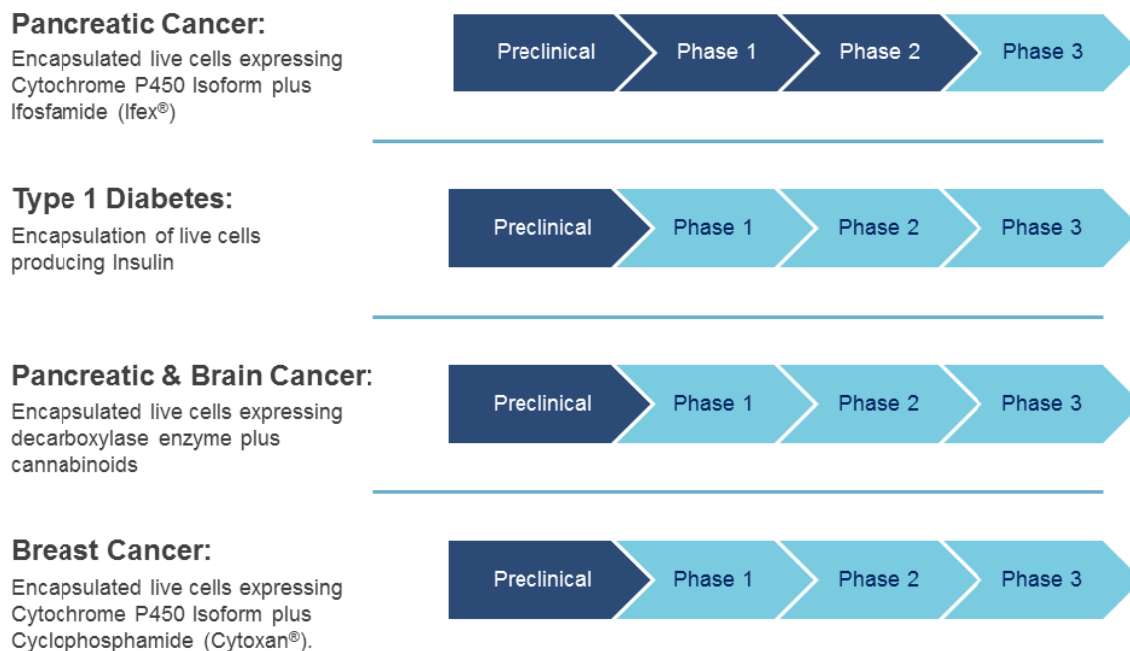
The next few months could see some of the most significant events in Company history. In 1H15, we expect full (not just preliminary) results from the preclinical ascites fluid study currently underway at TD2 in the U.S. If the results are solid, as we expect, a Phase 1 trial could commence later this year. The same is true for a Phase 1 trial to control the unbearable pain from advanced pancreatic cancer. It too will be conducted by TD2 in the U.S. In the meantime, preparations for the Phase 2b clinical trial in patients with advanced, inoperable pancreatic cancer are ongoing. Major documents, including the Investigators Brochure and a clinical protocol (a recipe for conducting the clinical trial) are in preparation, with the assistance of Clinical Network Services (CNS) - one of Australia's leading Clinical Research Organizations. The target date for the initiation of the Phase 2b clinical trial in Australia is the third quarter of 2015.

It should be noted that the encapsulation facility that will prepare the Cell-in-a-Box® capsules that will be used for human clinical trials has been completed and successfully tested in Bangkok, Thailand at that country's premier biotech location, the Thai Science Park. The facility is being prepared for inspection by drug regulatory authorities to ensure that it complies with current Good Manufacturing Practices (cGMP) standards. Once the facility is deemed satisfactory, then production of the Cell-in-a-Box® capsules for the clinical trials in advanced pancreatic cancer and its debilitating symptoms can commence. It is expected that the inspection/approval process should be completed in the third quarter of 2015.¹⁷

Separately, we anticipate meaningful progress on the diabetes and cannabis fronts in the second half of this year as well.

¹⁷ <http://www.pharmacytebiotech.com/>

Figure 1: R&D Pipeline Stages
Source: www.PharmaCyteBiotech.com



MANAGEMENT

Over the past year, PMCB leadership has undergone a makeover, with the addition of multiple, key personnel in scientific roles. Plus, other distinguished scientists and doctors, such as Dr. Van Hoff and Dr. Löhr, and members of the Diabetes Consortium and the Company’s Scientific Advisory Board will play significant roles in shaping direction of the Company.

Kenneth L. Waggoner – Chief Executive Officer, President, General Counsel and Chairman of the Board

Kenneth L. Waggoner has almost four decades of experience in management, business, operations and law. Mr. Waggoner started his career as an attorney in private practice. Notably he was a senior partner with Brobeck, Phleger and Harrison, named one of the top two law firms worldwide that provide services to biotechnology clients including Chiron, Amgen, Biogen Idec, Sangamo, Ligand, DepoTech and many others. He was the Managing Partner of Brobeck’s Los Angeles office. Mr. Waggoner was also a member of the Executive Committee for almost ten years and on the Policy Committee for numerous years managing Brobeck’s worldwide operations with annual revenues in excess of \$750,000,000. While at Brobeck, Mr. Waggoner was the Co-Chairman of Brobeck’s world-wide Environmental Law Group.

Further highlights of Mr. Waggoner’s career include leadership and legal positions with several start-up companies during the last several years as well as working with Fortune 500 companies most of his professional career. During his tenure with Chevron, Mr. Waggoner served as the Vice President and General Counsel of its Global Downstream operations where he was responsible for the overall management of legal services to the North American, Latin American, Europe and Asian Products Companies. At Chevron he led a

successful restructuring of the company's international Legal Department following Chevron's acquisition of Texaco. Mr. Waggoner received his Juris Doctorate with honors in 1973 from Loyola University School of Law in Los Angeles.

Gerald W. Crabtree, Ph.D. – Chief Operating Officer and Director

Dr. Crabtree is the Company's Chief Operating Officer. Since 1985, Dr. Crabtree has been involved with various biopharmaceutical companies where he has alternatively supervised and coordinated the development of multiple drug candidates, prepared clinical protocols, investigator brochures, monographs, research and review articles and served as project manager for development of major oncologic agents. He is a Member of the American Society of Clinical Oncology and also is a past member of research grant review committees for the National Institute of Health and the American Cancer Society. Dr. Crabtree established and directed, from inception, a department that monitored and coordinated the development of oncologic and immunologic drugs from initial discovery through regulatory approval in a major pharmaceutical company and served as project manager for the development of the anticancer agent, Taxol®.

Dr. Crabtree received his Ph.D. in Biochemistry from the University of Alberta, Edmonton, Alberta, Canada and has published over 80 articles in peer-reviewed journals. He is a National Cancer Institute of Canada Research Fellow. In addition, he served as Department Head of Molecular Pharmacology for the Nucleic Acid Research Institute, and prior to that as Associate Professor of Medicine with the Roger Williams Cancer Center at Brown University. Dr. Crabtree has also served as Director of Project Planning and Management (Oncology/Immunology) at Bristol-Myers Squibb and as Vice-President of Research and Development at ETEX Corporation. Most recently, Dr. Crabtree served as Interim CEO of PhytoCeutica, Inc., a biotech company developing a treatment that was based on a traditional Chinese medicine herbal formula for liver and pancreatic cancer.

Prof. Dr. Walter H. Günzburg – Chief Scientific Officer

Prof. Walter H. Gunzburg is the co-founder, Chairman of the Board and Chief Technical Officer of Austrianova. As well as being a full Professor of Virology at the University of Vienna since 1996, he has had many years of experience in the biotech industry. He was a scientific advisor to the international vaccine company, Bavarian Nordic, from 1994-2001 and was involved in their IPO. He has also been a scientific advisor to the German biotech companies, Paktis and Liponova, as well as the U.S. biotech company, Tocagen Inc., all of which developed/are developing advanced medicinal treatments for cancer. He was also the Director of the Christian Doppler Laboratory for Gene Therapeutic Vector Development from 2003-2011. Currently, he is a board member of ViruSure, a virus and prion testing company located in Vienna that he cofounded.

Prof. Gunzburg has been actively involved in European ethics and regulatory affairs in the fields of cell and gene therapy as well as xenotransplantation for many years. He was a member of the German Medical Association's Central Commission for Somatic Gene Therapy. He has also interacted with a number of regulatory agencies including the US FDA, EMA, TGA, HSA and Thai-FDA and was on the review panel for the Paul Ehrlich Institute, Langen, Germany. Prof. Gunzburg continues to be an active researcher and has published more than 130 peer-reviewed publications in international scientific and medical journals such as Nature, The Lancet, Proceedings of the National Academy of Sciences USA and Cancer Research as well as co-authoring the first German language textbook on gene therapy. He is also a member of the editorial board of a number of international cell and gene therapy journals including Trends in Molecular Medicine, and continues to be an active reviewer for many top tier journals as well as grant funding agencies.

Dr. Eva-Maria Brandtner – Director of Diabetes Program Development

Following receipt of her Doctorate in Natural Sciences in the areas of Biochemical Microbiology and Molecular Genetics in 2001, Dr. Brandtner served as a Postdoctoral Scientist and Senior Postdoctoral Fellow at Austrianova Biomanufacturing AG in Austria where she was involved in the development of retroviral vectors for gene therapy. In 2007, Dr. Brandtner became Project Manager for work on the cell-based therapy of liver cancer at the same company. Shortly thereafter, Dr. Brandtner was promoted to Senior Scientist at Austrianova Pte Ltd (Austrianova) where she oversaw the development of numerous projects concerned with live cell Bioencapsulation. This was followed in 2010 by her promotion to Chief Scientist at Austrianova, responsible for all encapsulation projects in medicine and biology. Most importantly, while at Austrianova, Dr. Brandtner was intimately involved in all of the preclinical work done there that involved the use of live cell encapsulation in developing a treatment for insulin-dependent diabetes. Due to family commitments, in 2012 Dr. Brandtner left Singapore to return to Austria where she is currently employed as Head of the Bioencapsulation Unit at the Vorarlberg Institute for Vascular Investigation and Treatment (VIVIT).

Dr. Brandtner is co-inventor on two granted patents and is named on several additional patents that are in preparation. She has co-authored numerous research reports that have been published in reputable scientific journals and has presented research results at national and international scientific conferences and meetings. Dr. Brandtner is a member of the European Society for Gene Therapy and the Austrian Society for Gene Therapy.

Dr. Matthias Löhr – Scientific Advisory Board Chairman

Dr. Matthias Löhr is the Chairman of the PharmaCyte Biotech Scientific Advisory Board. Dr. Löhr served as Principal Investigator for the Phase 1/2 and Phase 2 clinical trials of PharmaCyte Biotech's pancreatic cancer treatment that were completed in the early 2000s. Not only is he familiar with the Cell-in-a-Box® live cell encapsulation technology that forms the core of PharmaCyte Biotech's pancreatic cancer treatment, he has actually administered PharmaCyte Biotech's treatment (the combination of Cell-in-a-Box® capsules with low doses of the well-known anticancer drug ifosfamide) in clinical trials in patients with advanced, inoperable pancreatic cancer. Dr. Löhr is also serving as a consultant to PharmaCyte Biotech in connection with its development of treatments for pancreatic cancer and diabetes based on the Cell-in-a-Box® technology. Dr. Löhr has expertise in the treatment of both diseases in addition to thoroughly understanding the Cell-in-a-Box® technology and its use in a clinical setting.

Dr. Löhr is Professor of gastroenterology and hepatology at the famed Karolinska Institute in Stockholm, Sweden. He has also served as Professor of Molecular Gastroenterology at the University of Heidelberg and Head of a division at the German Cancer Research Center. Dr. Löhr has also worked as a translational scientist and Principal Investigator in clinical studies in gastrointestinal oncology for many years and has completed a postdoctoral fellowship at the Scripps Clinic & Research Foundation in La Jolla, California. Following receipt of his medical degree, Dr. Löhr served a residency in pathology and a residency in internal medicine and gastroenterology in Erlangen and Rostock in Germany, where he was also an Assistant Professor. Dr. Löhr holds a Ph.D. and an M.D. from the Karolinska University Hospital, Stockholm, Sweden. In addition, Dr. Löhr is a Member of Clinical Cooperation Unit of Molecular Gastroenterology at the German Cancer Research Centre, Heidelberg, Germany.

RISKS

As is the case with most mid-stage biotechs, the major risks to these shares include delays in launching of trials and studies and access to capital to commence and conduct these trials. Of course, poor results from trials are the greatest overall risk to these shares and other biotech stocks. However, given the results thus far, major additions in leadership and validation of the technology mitigate many of these risks. Plus, we believe management does indeed have access to the capital necessary to conduct near term trials because of these strengths. Risks associated with PMCB trading as a non-NASDAQ security can include liquidity and other related issues. All of these risks are typical of firms PMCB's size and standing.

VALUATION AND CONCLUSION

In our view, based upon the valuations of the peer group below, and PMCB's current standing, PMCB's shares are undervalued. As evidenced by the market caps of the companies in the table below, publicly traded biotechs tend to trade based upon milestone developmental events and size of the market opportunity, with tens of millions associated with various stages. Plus, certain approaches can be valued greater than others. Given its combination targeted therapy with unique encapsulation technology that activates chemotherapy drugs into their cancer killing form and the potential of its use as a universal therapy in the health care fields biggest treatment markets, PMCB has more in its corner than higher valuation peers such as Rexahn (NYSE – RNN), which recently raised funds for development. Ironically, the stock is trading near year lows despite its plethora of good news and multiple trials in the offing near term which only enhance valuations. With this in mind, we believe the shares could reach \$0.45 when the Phase IIb trial commences in 3Q15.

Investors should note that two years ago, when some of these companies were not as far along in their development, they traded at much lower valuations. For example, New Link Genetics (NASDAQ – NLNK) had a market cap of under \$300M versus the current \$1.6B valuation! Merrimack, a solid peer, is up nearly 300%. Clearly, as milestone events occur, PMCB shareholders could also be strongly rewarded. Looking out longer term, the very nature of the PMCB delivery platform and its therapeutic indications are unique relative to existing therapies. Therefore, it may ultimately be used to treat multiple forms of cancer given the mechanism of action, the highly concentrated and targeted placement concept, and low toxicity associated with the therapy. Therefore, we may be witnessing the dawn of a new universal therapy for multiple diseases.

Company Name	Symbol	Price (3/18/15)	52-wk high	52-wk low	Mkt Cap (mil)	Clin. Stage	Method
GlobeImmune	GBIM	\$8.15	\$15.00	\$4.29	\$46	Phase I	Immunotherapy
Incyte	INCY	\$97.08	\$97.13	\$40.30	\$1,667	Phase III, I	Targeted Inhibitor
Merrimack Pharmaceuticals	MACK	\$12.08	\$12.50	\$4.13	\$1,290	NDA Prep	Encapsulation
NewLink Genetics	NLNK	\$55.93	\$56.79	\$17.32	\$1,590	Phase III,III	Immunotherapy
Rexahn Pharmaceuticals	RNN	\$0.70	\$1.35	\$0.65	\$125	Phase I	Targeted Inhibitor
Threshold Pharmaceuticals	THLD	\$4.53	\$5.41	\$2.58	\$323	Phase III	Targeted Prodrug
Average					\$840		
<i>PharmaCyte Biotech</i>	<i>PMCB</i>	<i>\$0.11</i>	<i>\$0.49</i>	<i>\$0.10</i>	\$77	<i>Phase II</i>	<i>Tgtd, Encap, Prodrug</i>
Celgene	CELG	\$125.33	\$125.58	\$66.85	\$100B	Approved	<i>Chemotherapy</i>

Source: www.Yahoo!Finance.com, Goldman Small Cap Research

RECENT TRADING HISTORY FOR PHARMACYTE BIOTECH, INC.

(Source: www.BarChart.com)

PMCB - Pharmacyte Biotech Inc. - Daily OHLC Chart





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Rob Goldman founded Goldman Small Cap Research in 2009 and has over 20 years of investment and company research experience as a senior research analyst and as a portfolio and mutual fund manager. During his tenure as a sell side analyst, Rob was a senior member of Piper Jaffray's Technology and Communications teams. Prior to joining Piper, Rob led Josephthal & Co.'s Washington-based Emerging Growth Research Group. In addition to his sell-side experience Rob served as Chief Investment Officer of a boutique investment management firm and Blue and White Investment Management, where he managed Small Cap Growth portfolios and *The Blue and White Fund*.

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