DESTINATION STARTUP

PhotonPharma

One-Sentence Summary of What You Do: PhotonPharma is an immune oncology company that has developed a breakthrough technology to stimulates a patient's own immune system to seek out and destroy their cancer cells.

Affiliated Institution: Colorado State University

Have you formed a company yet? Yes

Funding/Financing: Grant Funding, Angel Funding (including Self or Friends/Family)

Please describe your company and the problem you are trying to solve: PhotonPharma is an immuno-oncology company with a break-through technology that stimulates a patient's own immune system to seek out and destroy their cancer cells. We have a patent protected process that precisely inactivates DNA/RNA of a patient's own tumor cells while leaving the cells alive with all of unique antigens targets intact. The process is simple, fast and inexpensive. A patient's tumor cells can be extracted, inactivated and administered back on the same day. Efficacy and safety has been demonstrated in a canine trial and in murine studies. PhotonPharma is ready to file IND this year for human clinical trials. All features of the technology have been validated in in-vitro and mouse models. Additionally, we completed a safety trial of client owned canines with spontaneous cancers. Primary safety outcomes were met. All biomarkers showed immune activation and tumor reduction. After six months none of the dogs showed signs of relapse or metastatic disease. One dog available for follow up is cancer free after 14 months.

What is/was your go-to-market strategy? Global spending cancer therapy exceeds $133 billion and is projected to reach $200 billion in 5 years. Our first targeted cancer (Triple Negative Breast Cancer, TNBC) has a total addressable market potential of $5.1 Billion. The company is initially focusing on the cancers with the most mutations which provide the most antigen targets for the immune system. These include melanoma, breast and colon. Similar to FDA approved CAR-T therapies, Innocell is positioned as a biologic cancer therapy that relies on lab-based processing of cells extracted from the individual patient. A predicate application of the technology was successfully developed and installed in blood banks around the world for inactivation of pathogens in donated blood. With minor mechanical and software modifications, Innocell dedicated devices can be manufactured and installed in hospital labs or adjacent blood centers to process cells on site. Reimbursement will follow the existing CAR-T coding. Due to the lower complexity and cost of the process, pricing discretion allows for as little as $50,000 per therapy compared to the $450,000 price of CAR-T and the reimbursement available at $180,000 per complete course of therapy. Oncology therapy involves 3 customer segments: the patient, the medical provider (oncologist) and the payor

(insurance, government). We have spoken at length to more than two dozen leading oncologists and key opinion leaders, receiving feedback on potential tumor targets, current clinical needs, potential role for Innocell among current therapies and logistics of installing the process in hospital labs. Significant opportunities exist for partnering with Large Pharma.

How will/do you generate revenue? From a regulatory and reimbursement perspective, Innocell is similar to FDA approved CAR-T therapies. Innocell is positioned as a biologic cancer therapy that relies on lab-based processing of cells extracted from the individual patient. A predicate application of the Innocell technology was successfully developed and installed in blood banks around the world for inactivation of pathogens in donated blood. More than one million transfusions of blood components treated with the technology have been made with no adverse events reported. With minor mechanical and software modifications, Innocell oncology-specific devices can be manufactured and installed in hospital labs or adjacent blood centers to process cells on site. Reimbursement will follow the existing CAR-T coding of DRG 016 and oncology laboratories or adjacent blood banks practicing the procedure will operate under BLA ICD-10-PCS procedure codes. Due to the lower complexity and cost of the process, pricing discretion allows for as little as $50,000 per therapy compared to the $450,000 price of CAR-T. Current DRG outpatient coding provides $180,000 reimbursement for the therapy - providing significant price discretion based on our low cost of goods/procedure. Following extensive customer interviews and market research, we have mapped out the commercial and promotional touchpoint within the oncology ecosystem. This includes patients, providers, oncology departments, and hospitals or hospital systems.

How will this showcase benefit your company or technology? We wish to highlight the significant progress we have made toward starting human clinicals. We received word from FDA that, pending completion of our CMC (chemistry manufacturing and controls) section, we are ready to file IND. We hope to continue to network and access the funding universe through those present at the program.

Who are the members of your team and why is this the right team to get the job done?

- Jon Weston, MBA, President & CEO 30 years in biopharmaceuticals (Searle -Celebrex) and medical devices (Terumo BCT, Medtronic–PillCam and ICD communication chips).
- Ray Goodrich, PhD, Co-Founder 29 years in transfusion medicine & hematology (Terumo BCT, Cryopharm).
- Amanda Guth, DVM, PhD, Chief Science Officer 20 years immuno-oncology research (multiple patents /patents pending for vaccines and adjuvants).
- Gary Gordon, MD, PhD. Board Member Former Head of Oncology at Abbvie and former practicing oncologist at Johns Hopkins Hospital.