



August 2023 Newsletter

2023 “Campaign for Cures” Research Goal and Request for Support

Dear Friend:

We are more than halfway through 2023 and John Paul II Medical Research Institute’s “Campaign for Cures” initiative to raise \$1 million needs your support. One of the medical conditions that has always been a research priority at the Institute and which this year’s Campaign is focusing on is cancer. Virtually every family has been impacted by this dreadful disease in one way or another. In the space below, I will address the unique challenges associated with cancer research and the novel approach that the Institute is using to target and develop better treatments. Please consider making a meaningful donation to help JP2MRI meet this year’s fundraising goal and read how your support is making an impact on our cancer research program.

The Cancer Challenge

Metastatic cancer of all types is by far the most challenging cancer presentation to treat. While there have been some advances made recently, the overall prognosis for treating patients with cancer that has metastasized remains poor. Conventional cancer treatment involving systemic chemotherapy and/or radiation use is generally not targeted solely to cancer cells and tissue. Consequently, this indiscriminate treatment ends up affecting both cancerous and healthy tissue alike and often causes serious side effects to the patient as a result. This unintended consequence even applies to the more recently introduced class of novel cancer drugs known as check-point inhibitors. Thus, there is a great need to develop new and novel cancer treatments that only target cancer tissue and spare non-malignant tissue from adverse side effects. An increasing amount of recent scientific literature and data seems to support that stem cells may hold the key to offering a potential solution to this problem.

Over the past few years, JP2MRI has been developing platform technologies using ethically derived adult stem cells that have been genetically modified so that they can be used for targeted cell therapy. Recent studies have shown that specific adult stem cells have the capability to home to tumors, much like a heat-seeking missile. However, limited information currently exists as to what regulates this adult stem cell homing behavior, and which specific type of adult stem cell may be the most effective in homing to different types of cancer. JP2MRI has already genetically modified adult stem cells to make them capable of delivering payloads of drugs that could kill cancer cells without harming normal tissue. This research milestone was made possible by past financial support of our donors. JP2MRI now needs to test these genetically modified adult stem cells in human cultured systems and mouse models in order to discover the following research findings: (1) Determine whether our adult stem cells successfully home to tumor cells; and (2) Determine whether these adult stem cells deliver their payload and cause tumor regression.

Anticipated Financial Outlay

JP2MRI anticipates that this next phase of required preclinical research will cost roughly \$500,000. The costs associated with this project will include: 1) Purchasing a required “Whole Animal Bioluminescence/Fluorescence Imaging” Machine that has the capability to monitor adult stem cell homing in mice. This machine costs \$150,000; 2) Purchasing supplies and hiring additional research staff. We anticipate that this will cost roughly \$125,000; and 3) Subcontracting necessary animal studies to local university researchers with access to specialized animal research facilities. Typical subcontracting work such as this costs roughly \$225,000. The Institute hopes that this research phase will provide the necessary proof-of-concept data to then start conducting clinical testing of these adult stem cells in cancer patients.

It is important to point out that the equipment mentioned above, along with the resulting research protocols that would be developed as we test our genetically engineered adult stem cells, would also be equally applicable to our neurodegenerative disease research platform. Just as with cancer, we would need to document that the adult stem cells are properly homing to areas of the central nervous system and are delivering the payload of drugs that we are engineering within them to help repair and protect damaged neural tissue.

Major Research Accomplishments

Over the past two decades, JP2MRI has established a proven track record of research success. We have developed new benchmarks in the area of induced pluripotent stem cell (iPSC) research by utilizing a novel method for manufacturing safer, better and cheaper iPSC than embryonic stem cells. The Institute's efforts have also led to the creation of ethical human cells that can replace the HEK293 (Human Embryonic Kidney cells obtained from aborted fetuses) cells used by the pharmaceutical and bio-manufacturing companies. The HEK293 cell line was created from a first trimester abortion back in the 1970s and currently generates over 100 billion dollars for the pharmaceutical industry through a variety of drugs and products in the market. For over a half century, no organization attempted to develop an ethical alternative cell line to HEK293 until JP2MRI decided to take on the challenge. The Institute has filed a Patent Cooperation Treaty (PCT) application with the United States Patent and Trademark Office, and we anticipate our cell lines will someday be used for ethical gene therapy, biologics and vaccines.

Request for Support

JP2MRI needs your continued financial support to ensure that we accomplish our important research objectives. Your donations have enabled the Institute to become a global leader in advancing ethical medical research to address unmet medical needs. Please follow our research progress by visiting our website (jp2mri.org) Facebook, Rumble or Gab accounts. Thank you very much for your support!

Kind regards and God Bless,



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