

ImagineRx, Inc.
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Industry: Biotechnology

Management:

Eugene Major, founder and CEO

Kam Leong, PhD, Columbia University Professor of Biomedical Engineering, founder and CSO

Medical Advisory Board:

Currently seeking members

Scientific Advisory Board:

Currently seeking members

Number of Employees: 2

Finance:

Accounting/Tax: BDO

Financing to Date:

NIH: \$1.2 million

Financing Sought:

\$1 million

For: Additional proof of concept studies, regulatory consulting and patent expenses

Intellectual Property: A

patent application was filed by Columbia University

Legal: Goodwin Proctor LLP

Business Description/Company Background:

ImagineRx, Inc., a Columbia University spinout, is developing a drug delivery platform focused on diseases related to the brain. The first application is directed against glioblastoma (GBM) tumor cells and delivers anti-tumor drugs. ImagineRx's CSO is a member of the National Academy of Medicine and was an inventor of Gliadel, the only FDA-approved drug delivery technology for GBM. ImagineRx's CEO has a track record successfully founding, building and financing growing companies.

Market Opportunity / Unmet Need:

GBM is the most common and aggressive form of brain cancer with more than 14,000 new cases in the U.S. each year and 80,000 worldwide and no effective treatment options. Average survival time is 12-16 months post-diagnosis. ImagineRx has the potential to deliver existing drugs targeting GBM as well as novel therapeutics in development.

Products/Services – Launched & Pipeline:

ImagineRx's drug delivery technology is a hybrid mesenchymal stem cell (MSC)/nanocomposite spheroid. The combination of MSC (and its tumor-homing properties) and nanoparticles enables this system to target GBM tumors with high cell retention and deliver combinations of payloads including proteins and therapeutic drugs to kill cancer cells and prevent recurrence. It is anticipated that the ImagineRx system will be administered during surgery. ImagineRx anticipates the platform will also have utility in other brain-related diseases.

Commercial/Technical Milestones:

- ImagineRx's technology has been tested *in vitro* and *in vivo* in GBM cell lines and a GBM mouse model, and has been shown to kill GBM cells, remain in the tumors and inhibit tumor growth delivering TNF-related apoptosis-inducing ligand (TRAIL), a protein drug, and mitoxantrone (MTX), a small-molecule drug ([Suryaprakash et al., Nano Lett, 2019](#)).
- ImagineRx is seeking to raise capital for a study of the injection of the technology in the brain of a syngeneic mouse model or a patient-derived xenograft model in 2021.

Competition/Competitive Advantage/Customer Benefits:

Standard of care is surgery followed by radiation and chemotherapy (temozolomide made by Merck and generic manufacturers) with most patients experiencing recurrence and short survival time. The combination of ImagineRx's spheroid's tumor-homing properties, high retention and delivery of multiple payloads should enable it to deliver GBM-killing drugs in a combination that outperforms existing poor chemotherapy options. There are a significant number of drugs targeting GBM in clinical trials. Most are administered via the oral and intravenous routes. These drugs could be potential payloads for the ImagineRx platform. The global brain tumor therapeutics market was estimated to be \$2.25 billion in 2019.
