Vessel Scientific

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Industry: Pharma, Cancer Therapeutic

Executive Leadership:
Chichao Chen, MD, PhD
Lingbo Zhang, PhD

Seeking $1M
Medicinal chemistry (2019)
Pre-clinical testing (2020)
Phase I (2021)

Legal:
Anticipate patent approval

IP:
Non-provisional filed 2018 for AML therapeutic strategy, owned by MSKCC and CSHL.

Executive Summary:
Vessel Scientific is a cancer therapeutic venture whose mission is to develop treatment for Acute Myeloid Leukemia (AML) and benefit patients suffering from AML.. Our novel therapeutic strategy takes advantage of AML's specific requirement for a vitamin metabolism pathway. When inhibited in leukemic cells, the production of materials for DNA synthesis and cell replication is significantly decreased. Alone, our inhibitors successfully slow down leukemia progression by reducing metabolite production.

Company History:
Screening technology for cancer drug target identification has been developed for more than 10 years by Prof. Scott Lowe's group (MSK). Dr. Chichao Chen (MSK) and Dr. Lingbo Zhang (CSHL) applied this method to develop potential human acute myeloid leukemia (AML) treatment. With support from Prof. Lowe, Vessel seeks funding for compound improvement, clinical trials and regulatory affairs.

Market Opportunity / Unmet Need:
Worldwide annual incidence of AML is 400,000 at 1.5B global market. Despite recent progress, the 5-year survival rate remains only 25% . Decades old chemotherapy remains the backbone of AML treatment. Targeted therapies against specific subsets of AML have been developed (e.g. Gemtuzumab ozogamicin for CD33 expression, Ivosidenib for IDH1 mutation. However less than 50% of AML patients have clinically druggable alteration) but the efficacy of these new drugs cannot be extended to a broader AML population. Vessel's strategy is to exploit the fundamental characteristics of leukemia cells and suppress AML independent of subtype by pursuing vulnerabilities in the metabolism of AML

Products/Services – Launched & Pipeline:
Our novel therapeutic strategy takes advantage of AML's specific requirement for a vitamin metabolism pathway. When this pathway is inhibited, the production of materials for DNA synthesis and cell replication is significantly decreased. Alone, our inhibitors slow down leukemia progression by reducing metabolite production. Combined with current AML therapies such as existing target therapies or standard chemotherapy to maximize efficacy.

Milestones Accomplished to date:
target therapy genetically validated in AML 2016

- Multiple small molecule drugs demonstrated to suppress the intended metabolism pathway in vitro and in vivo 2017
- Safety & efficacy of lead compounds shown in mouse models 2018
- Drug efficacy shown in patient AML cells
- Compound modification and improvement for clinical application are currently undergoing.