



EXECUTIVE SUMMARY

TEAM

Adam Marcus, PhD

Technical Lead

FUNDING

SaGA Platform

\$25K Winship Cancer Institute

\$50K Foundation Grant

\$1.3M NIH

SaGA Therapeutic & Companion Diagnostic

\$30K Academic Grant

\$50K Georgia Research Alliance

\$64K Biocivity Grant

INTELLECTUAL PROPERTY

Patents pending

Technology available for licensing and partnership

STATUS

Therapeutic -Lead
Discovery/Optimization

Diagnostic – Target
Identification/Validation

Platform – Proof-of-concept
with additional indications

TECHNOLOGY

SaGA Platform

The proprietary Spatiotemporal Genomic and Cellular Analysis (SaGA) technology comprises the isolation of “leader cells” which are highly invasive and proliferative cells within lung cancer tumors. Using the novel SaGA platform, the team has developed of three technologies: (1) a drug compound for the treatment of lung cancer, (2) a diagnostic that identifies individuals with a highly invasive form of lung cancer requiring aggressive treatment, and (3) a drug discovery platform to identify new therapeutics that treat metastatic lung cancer.

SaGA Derived Therapeutic

The identified drug compounds affect the metabolic state of the leader cells rendering them non-invasive and stops the metastasis of lung cancer. A drug of this nature can potentially reduce the growth rate of this cancer and allow the patient to manage the disease for an extended period of time without the extreme side effects seen with chemotherapy and radiation.

SaGA Companion Diagnostic

Screening for genetic mutations predicated using the SaGA technology, the diagnostic is able to predict which early stage patients will have poor clinical outcomes and consequently need to be treated more aggressively.

SaGA Drug Discovery Platform

Using the same technology that generated the lead compounds currently in development, SaGA can be used to screen libraries of compounds to identify new therapeutics. The platform is adaptable to a variety of cancer types, enabling the development of a broad program of anti-metastatic therapeutics.

MARKET NEED

With a 5-year survival rate of 16%, lung cancer is often aggressively treated. A multimodal treatment approach is often used with lung cancer including radiotherapy and chemotherapy being administered simultaneously. Not only do these treatments come with high costs, they also have severe side effects. While new immunotherapies have less severe side effects, they are expensive and only effective in small subsets of patients.

Considering the current treatment options, selecting the most appropriate treatment for lung cancer patients can be challenging. There is a general need throughout the entire clinical cycle of cancer to minimize the possibility of metastasis. A companion diagnostic could help clinicians determine which patients need a more aggressive treatment regimen while a new anti-metastasis drug could help prevent growth and spread of tumors in early stage patients or extend the life of patients in late stage lung cancer with palliative treatment.

For more information on this technology contact:

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This technology is being developed out of Emory University.

Therapeutic

Development of their lead drug candidate is underway. To date the team has completed dose-response and a full suite of GLP-compliant DMPK studies with the lead candidate, including demonstration of efficacy in multiple *in vivo* models of lung cancer

Diagnostic

The team proposes developing a genomic panel to run a prospective clinical trial with current patients at Emory's Winship Cancer Institute. To date genomic variants have been identified and retrospective studies run supporting the team's ability to identify patients with the most aggressive forms of early-stage lung cancer who consequently had significantly lower survival rates than their counterparts without gene mutations.

Platform

While the current SaGA Platform has been designed for lung cancer, the principle of identifying leader cells from a primary tumor can theoretically be applied to any solid tumor.

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