



Earlier Detection

Thrive Launches with \$110 Million Series A Financing to Integrate Earlier Detection of Multiple Cancer Types into Routine Medical Care

Company Advancing CancerSEEK, A DNA- and Protein-based Liquid Biopsy Test Developed by The Vogelstein Lab at Johns Hopkins University

10,000 Person Prospective Trial Fully Enrolled with Geisinger; Financing Will Support Expanded Clinical Development to Enable Regulatory Approvals and Broad Reimbursement Access

Company Will Integrate Real-World Data and Machine Learning to Enable a Comprehensive Care Solution for Primary Care Physicians

Third Rock Ventures Led Financing Together with Section 32, Casdin Capital, Biomatrix Capital, BlueCross BlueShield Venture Partners, Invus, Exact Sciences and Others

Cambridge, MASS., May 30, 2019 – Thrive Earlier Detection Corp., a company dedicated to incorporating earlier cancer detection into routine medical care, today launched with \$110 million in a Series A financing. Thrive will further advance and commercialize CancerSEEK, a liquid biopsy test designed to detect multiple cancer types at earlier stages of disease. CancerSEEK has been developed by cancer research pioneers Drs. Bert Vogelstein, Kenneth Kinzler and Nickolas Papadopoulos at Johns Hopkins University.

CancerSEEK combines analysis of a highly targeted set of DNA and protein measurements from blood to detect cancer, demonstrating greater than 99% specificity in a retrospective study published in *Science*. Minimizing the “false-positive” results common in today’s early cancer screening tools enables physicians to focus follow-up procedures on patients who truly have cancer and for whom the doctor can take treatment action. Thrive plans to integrate real-world data and machine learning to continue to improve CancerSEEK over time and to create a cost-effective comprehensive care solution for primary care physicians.

“Over the past 30 years we have made great strides in understanding cancer. Combining this knowledge with the latest in molecular testing technologies, our founders have developed a simple and affordable blood test for the detection of many cancers at relatively early stages,” said Christoph Lengauer, Ph.D., partner at Third Rock Ventures, and co-founder and chief innovation officer of Thrive. “We envision a future where routine preventative care includes a blood test for cancer, just as patients are now routinely tested for early stages of heart disease. We know that if cancer is caught early enough, it can often be cured.”

CancerSEEK is currently being evaluated in DETECT, a prospective study in 10,000 healthy individuals underway in collaboration with Geisinger, to better understand test performance and the implementation of its findings into patient care. Thrive intends to conduct additional

clinical studies to generate evidence to support regulatory approvals, inclusion in cancer screening guidelines and broad reimbursement.

CancerSEEK has received Breakthrough Device designation from the U.S. Food and Drug Administration (FDA) for the detection of genetic mutations and proteins associated with pancreatic and ovarian cancers, two of the most deadly cancer types.

“To be truly useful to patients, new medical technology must be developed with rigorous evidence and designed to be affordable and readily integrated into routine medical care,” said Steven J. Kafka, Ph.D., partner at Third Rock Ventures and chief executive officer of Thrive.

“With the help of experts and strategic partners, Thrive is launching today to advance a novel test for the earlier detection of multiple cancers, which we aim to augment with an integrated service that helps patients maneuver the often confusing path that follows a cancer diagnosis.”

Third Rock Ventures led the Series A financing, with participation from Section 32, Casdin Capital, Biomatics Capital, BlueCross BlueShield Venture Partners, Invus, Exact Sciences, Cowin Venture, Camden Partners, Gamma 3 LLC and others.

About Thrive’s Integrated Offering for Earlier Detection

Today, many cancers are detected at an advanced stage, when the disease has become difficult to treat. This is particularly true for diseases that lack guideline-driven screening tests, such as ovarian, pancreatic and liver cancers, among others. To complement colonoscopy, mammography and other screening tools, Thrive is developing CancerSEEK, a blood-based test designed to be used in routine medical care, with the goal of identifying multiple cancer types at earlier stages. Thrive has an exclusive license to CancerSEEK from Johns Hopkins University.

Informed by more than 25 years of research by the company’s founders, CancerSEEK interrogates genomic mutations in circulating tumor DNA (ctDNA) and cancer-associated protein markers in plasma to identify abnormalities that are common across multiple cancers. In a retrospective study of multiple cancer types published in *Science* in 2018, CancerSEEK was shown to perform with greater than 99% specificity and with sensitivities ranging from 69% to 98% for the detection of five cancer types – ovarian, liver, stomach, pancreas and esophageal – for which there are no screening tests available for average-risk individuals.

To support physicians and patients in acting upon the detection result, Thrive aims to offer an integrated service that provides support in result interpretation, confirmatory diagnostic testing and guidance for additional clinical care where appropriate. Beyond this, drawing upon demographic and phenotypic information, historical clinical data, radiology and pathology imaging, behavioral data, information from retrospective clinical studies of relevant cohorts, and other sources, Thrive intends to create a learning loop that fine-tunes test performance and expands the number of people who can benefit from earlier cancer screening over time.

About the DETECT Clinical Study

The DETECT study is underway to better understand CancerSEEK performance and how to implement its findings into patient care. This study is being conducted by Johns Hopkins University School of Medicine, in partnership with Geisinger and Thrive. To date, 10,000 women between the ages of 65 and 75 without a prior cancer history have been enrolled. Data from this trial, along with other data and ongoing discussions with regulatory authorities, will help inform design of future studies, including those intended to support regulatory approvals.

About the Thrive Team

The CancerSEEK technology was pioneered by a team of researchers from the Johns Hopkins University School of Medicine. The company founders include:

- Bert Vogelstein, M.D., a pioneer in cancer genomics and the first scientist to elucidate the molecular basis of a common human cancer, is the Clayton Professor of oncology and pathology and co-director of the Ludwig Institute at the Sidney Kimmel Comprehensive Cancer Center (SKCCC) at Johns Hopkins University School of Medicine. Dr. Vogelstein is also an investigator of the Howard Hughes Medical Institute.
- Kenneth W. Kinzler, Ph.D., an expert on the molecular and genetic analysis of human cancer, is a professor of oncology and a co-director of the Ludwig Institute at Johns Hopkins University and associate director for laboratory research for the SKCCC at Johns Hopkins University School of Medicine. Dr. Kinzler also serves as a member of Thrive's board of directors.
- Nickolas Papadopoulos, Ph.D., an expert in cancer diagnostics and the development of diagnostic tests, is a professor of oncology and pathology at the SKCCC at Johns Hopkins University School of Medicine. Dr. Papadopoulos also serves as a member of Thrive's board of directors.

Leading Thrive is an experienced team of company-building scientists and business executives, including:

- Steven Kafka, Ph.D., partner at Third Rock Ventures and former president and chief operating officer at Foundation Medicine, as chief executive officer and director;
- Christoph Lengauer, Ph.D., partner at Third Rock Ventures, former chief scientific officer at Blueprint Medicines, as co-founder and chief innovation officer and director;
- Isaac Ro, former vice president and lead medical technology analyst at Goldman Sachs & Company, as chief financial officer;
- Isaac Kinde, M.D., Ph.D., co-inventor of the technology enabling CancerSEEK, as co-founder and head of research and innovation;
- Geoff Otto, Ph.D., former vice president of product development at Foundation Medicine, as senior vice president and head of product development;
- Samantha Singer, entrepreneur-in-residence at Third Rock Ventures, former chief operating officer at the Broad Institute, as chief operating officer;
- Semi Trotto, former head of human resources at Editas Medicines, as senior vice president and head of human resources;
- Dina Ciarimboli, general counsel at Third Rock Ventures, as general counsel;

- Alexis Borisy, co-founder and former chairman of Foundation Medicine, as a member of the board of directors;
- Michael Pellini, M.D., managing partner at Section 32 and former chairman and chief executive officer at Foundation Medicine, as director.

About Thrive Earlier Detection Corp.

Thrive Earlier Detection Corp. is a healthcare company focused on incorporating earlier cancer detection into routine medical care to extend and save lives. Thrive is developing CancerSEEK, a liquid biopsy test that is designed to detect many cancers at earlier stages of disease that will serve as the core of its integrated cancer information offering. CancerSEEK is designed to be administered to healthy adults during routine medical care, such as a yearly checkup, alongside existing cancer screening tools. The company was launched in 2019 by Third Rock Ventures, with funding from additional investors Section 32, Casdin Capital, Biomatics Capital, BlueCross BlueShield Venture Partners, Invus, Exact Sciences and others. For more information, please visit www.thrivedetect.com.

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