



EMBARGOED UNTIL JUNE 1, 2024, 9:00am CT

First Ascent Biomedical Presents Findings from Clinical Studies in Pediatric and Adult Cancers Using its AI-Enhanced Functional Precision Medicine Platform at ASCO 2024

- Study shows that FPM data can be reliably and quickly generated even through minimally invasive small-needle biopsies, which may expand the accessibility of FPM to provide personalized treatment validation and recommendations.
- NIMHD-funded study explores the relationship between biomarkers and racial/ethnic differences in response to cancer therapies to address existing health disparities.
- New research builds on a body of clinical evidence published in the April issue of *Nature Medicine*, which demonstrates the effectiveness of First Ascent’s FPM platform when standard treatments fail.

Miami, FL – June 01, 2024 — First Ascent Biomedical announced findings from ongoing clinical studies conducted in partnership with Florida International University, examining the company’s Functional Precision Medicine (FPM) platform in adult and pediatric patients with difficult-to-treat cancers. The study findings were presented during poster sessions at the 2024 American Society of Clinical Oncology (ASCO) annual meeting in Chicago.

“Continued research into the utility of FPM and AI across patient populations, age groups, and ethnicities is critical to fully understanding the power of our AI-driven FPM technology to shape the future of how treatments are selected for patients with difficult-to-treat cancers,” said Jim Foote, CEO and Co-founder of First Ascent Biomedical. “We are truly grateful to see the accelerating support and international coverage for our FPM and AI platform, which we are confident will generate robust clinical evidence supporting the increased use of functional precision medicine in treatment selection.”

In the first study, titled “*The Clinical Utility and Accessibility of Functional Precision Medicine for Relapsed/Refractory Pediatric and Adult Cancers* [Abstract 1551, Poster Board 422],” researchers from Florida International University (FIU), Cleveland Clinic Florida, Nicklaus Children’s Hospital, and First Ascent Biomedical set out to optimize the drug sensitivity testing (DST) protocol for all clinically-relevant sizes of tumor tissue.

Samples were taken from resections, core biopsies, and fine-needle biopsies from primary and metastatic lesions from pediatric and adult cancer patients. Researchers reported preliminary



efforts to optimize the DST approach for all sizes of patient tissue samples, including fine needle and core biopsies available through minimally invasive procedures.

Data from these studies include a feasibility cohort of 24 refractory pediatric patients, of which 21 patients received drug sensitivity testing data (median = 102 agents per sample) and 20 patients received genomic profiling data. Researchers provided FPM recommendations to 19 (76%) patients, of which 14 patients underwent therapeutic intervention. Six patients received FPM-guided treatments, and five (83%) patients experienced a >1.3-fold improved progression-free survival over their previous therapy, significantly above the rate of physician's choice ($p = 0.0104$).

“These results show that we can improve access to FPM data for patients through DST testing on fine-needle and core biopsy samples in addition to excised tissue, and that FPM data can significantly improve outcomes through validation of tailored treatment options,” said Diana Azzam PhD, Study Investigator, Co-Founder of First Ascent Biomedical, and Assistant Professor at FIU. “Furthermore, improvements to test sensitivity enable us to narrow our focus on effective drug-target candidates, enhancing outcomes and actionable recommendations. We believe this new information will enable us to expand access to FPM and provide clinical benefit to adult and pediatric patient populations.”

The studies that generated these data were funded through a grant from the Florida Department of Health/Live Like Bella Pediatric Cancer Research Initiative, the National Institute of Minority Health Disparities (NIMHD), the Community Foundation of Broward, the Scott R. MacKenzie Foundation, and the Cornelia T. Bailey Foundation.

The second study, [“Biomarker Development from Functional Precision Medicine Datasets via Explainable Machine Learning \[Abstract #10061, Poster Board #428\],”](#) aims to analyze the relationship between racial/ethnic background and functional response to anti-cancer agents, to identify potential differences in response to therapeutic classes and identify new biomarkers predictive of patient treatment response.

Striking clinical outcomes and successes demonstrated sufficient evidence to expand our pan-pediatric cancer functional genomics dataset through a NIMHD-funded expansion cohort (NCT05857969, $n = 65$ patients) further to investigate multi-omics relationships between functional and molecular characteristics and understand the role of race/ethnicity in the complex relationship.

“There is a substantial gap between actionability and clinical benefit when using genomics precision medicine to determine treatment selection, especially in patients where ethnicity and race may play a confounding role in treatment response,” said Noah Berlow PhD, Study Investigator and Co-founder of First Ascent Biomedical. “Our childhood and adult pan-cancer



studies continue to demonstrate the potential impact of validated treatments to improve clinical benefit rates using our innovative FPM platform.”

Applying First Ascent’s proprietary multi-modal, multi-omics biomarker development framework to pediatric cancer functional genomics data also establishes a blueprint for supporting novel drug development, label expansion, and drug repurposing efforts in adult cancers. The presented findings include novel AI-designed treatment response biomarkers developed through functional genomics data on adult non-small cell lung cancer as a case study of the novel biomarker development workflow.

The study was funded through a grant from the Florida Department of Health Live Like Bella Pediatric Cancer Research Initiative and the National Institute of Minority Health Disparities (NIMHD).

xDRIVE Functional Medicine Platform (FPM)

First Ascent Biomedical’s Functional Medicine Platform (FPM) is a first-in-kind AI-driven drug prediction platform that integrates drug sensitivity testing of cancer cells with DNA/RNA sequencing. The platform reviews a previously unattainable number of combination and mono-therapy options for all liquid and all solid tumor cancers. It delivers a highly personalized, actionable plan to the physician, with accompanying rationale, in an average of 10 days.

The First Ascent platform integrates advanced drug screening technologies, molecular profiling, and proprietary AI models to expand therapeutic precision and clinical benefit. First Ascent Biomedical is building a Clinical Laboratory Improvement Amendment (CLIA)- certified commercial lab with greater FPM system capacity, allowing oncologists and patients nationwide to access this personalized treatment approach.

In April, [Nature Medicine](#) published a study demonstrating the feasibility of returning a combination of drug sensitivity profiling and molecular data (FPM) to clinicians to inform subsequent treatment recommendations for relapsed and refractory pediatric patients. The resulting data provided actionable treatment options for 83% of enrolled patients. DST results were available within a median of nine and 10 days for hematological and solid tumors, respectively, giving the physicians a clinically relevant time frame to recommend treatments.

The AI-enhanced FPM platform could address a significant unmet need, as cancer remains the leading cause of disease-related death for adults and children in the U.S. While survival rates have improved for some cancers like leukemia, progress has stalled for high-risk, relapsed, and refractory solid tumors which often lack actionable genomic drivers and targeted treatments.



First Ascent's breakthrough technology could also open new paths for pharmaceutical companies by helping identify therapeutic biomarkers and combination regimens for accelerated drug development against difficult-to-treat cancers.

About First Ascent Biomedical

First Ascent Biomedical was started in 2018 after the founder lost his 16-year-old son to bone cancer following a long and difficult battle. That incredible loss defined their mission, has been to change the way treatment is selected for patients with recurring and refractory cancers. Through developing a first-in-kind technology platform, First Ascent provides the data, evidence, and concise analysis to deliver an individualized, actionable treatment plan to cancer patients and their doctors – effectively identifying the right drug for the right patient at the right time. For more information, visit www.firstascentbiomedical.com.

To access the complete study published in Nature and multimedia assets, visit www.firstascentbiomedical.com/news

Media Contact:

David Patti

Media@firstascentbio.com

[908.421.5971](tel:908.421.5971)