Cellens Raises $6.5M to Advance Its AI-Driven Mechanobiology Platform for Non-Invasive Bladder Cancer Diagnostics

BOSTON, MA, UNITED STATES, December 23, 2025 / EINPresswire.com/ -- Cellens, Inc., a cancer diagnostics company pioneering a new mechanobiology and AI-driven platform, BioFeel™, for non-invasive cancer detection, has raised a $6.5M Series Seed round.

The financing follows compelling early clinical data generated with leading urologists at Harvard's Brigham and Women's Hospital, showing that the company's urine-based bladder cancer test detected recurrence with strong diagnostic performance, detecting all recurrence cases and achieving an Area under the Curve (AUC) of 88% in an initial prospective clinical study.

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> *Megann Vaughn Watters, Vice President of New Ventures for Labcorp*

The round was led by SOSV, with participation from the Labcorp Venture Fund, KOLON, Blackwood Healthcare Breakthroughs, Tufts University, American Cancer Society BrightEdge, Cancer Fund, TiE Boston Angels, and other strategic investors.

Breakthrough Results in a High-Burden Cancer Space

Bladder cancer is among the most common and most expensive cancers to monitor, with an estimated 83,190 new U.S. cases in 2024 and 800,000 living with the disease nationwide. Because recurrence is frequent, patients undergo repeated invasive cystoscopies, often several times per year. Yet the majority of these procedures yield negative results, creating significant patient burden and high healthcare costs. According to SEER-Medicare projections, bladder cancer is expected to reach $11.6 billion in annual U.S. costs by 2030.

In a prospective, case-controlled study analyzing nearly 100 patient urine samples, Cellens' test

identified every recurrence case, significantly outperforming traditional FDA-cleared molecular assays that often miss low-grade disease and achieve only 60–65% sensitivity.

A New Diagnostic Modality: Biophysics + AI

Cellens' platform uses atomic force microscopy (AFM), a nanoscale "finger" that physically feels the biophysical properties of cancer cells, combined with proprietary machine learning algorithms trained on millions of cell–probe interactions. This enables the creation of biophysical biomarkers, a fundamentally new diagnostic signal based on the insight that cancer cells feel different from healthy cells.

By utilizing physics rather than relying solely on molecular markers, Cellens addresses the biological heterogeneity that has limited the sensitivity of existing urine-based tests.

Clinically, the test enables urologists to confidently rule out patients without recurrence, reducing the need for invasive, uncomfortable, and resource-intensive procedures. This approach can improve workflow efficiency, lower healthcare costs, and focus intervention on the patients who truly need it.

"This early clinical data validates a core premise: the physics of cancer can reveal what molecular tests routinely miss," said Jean Pham, Founder & CEO of Cellens. "Our goal is to shift the standard of care for bladder cancer monitoring with accurate, non-invasive testing. While recurrence surveillance is our first application, our mechanobiology platform has broad potential across oncology."

The technology originates from research at Tufts University, building on a proof-of-concept study published in PNAS in collaboration with Dartmouth Medical Center and the University of Washington Medical Center.

"There has been no fundamental innovation in bladder cancer diagnostics," said Mohan Iyer, Managing Partner at SOSV. "Cellens is pioneering an entirely new data layer, the biophysical fingerprint of cancer. The early clinical results demonstrate the potential to deliver accuracy where existing urine tests fall short. Turning physics into a diagnostic signal is a genuine breakthrough."

Use of Funds & Upcoming Milestones

Funding will accelerate:

 Buildout of a Boston-based CLIA-certified clinical laboratory to process patient samples and generate biophysical markers at scale.

 Continued strategic R&D partnership with Bruker to accelerate the throughput and

automation of the BioFeel ™ platform.

 Expanded clinical validation studies across Brigham and Women's Hospital, Tufts Medical Center, and Emerson Hospital.

 Presentation of new data at major industry and scientific forums.

"A non-invasive, high-accuracy surveillance test for bladder cancer has the potential to improve patient experience, streamline workflows, and reduce overall cost of care," said Megann Vaughn Watters, Vice President of New Ventures and Strategic Alliances for Labcorp. "We are excited to support Cellens as they advance this new diagnostic technology."

About Cellens, Inc.
Cellens is pioneering a new AI-driven mechanobiology platform, BioFeel ™, to bring clarity and comfort to cancer diagnostics. The technology platform creates a fundamentally new class of biomarkers to detect recurrence non-invasively and accurately. Cellens's mission is to improve patients' quality of care by giving physicians the actionable information they need to make timely decisions.

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