



Executive Summary: Binary Genomics aims to enable earlier detection of new and recurrent cancers via analysis of DNA signatures in blood. Our diagnostic platform is based on ultrasensitive detection technologies developed at Yale University which have significant economic and technical advantages compared to other approaches in this intensely competitive field.

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Contact:

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Industry:

Diagnostic

Finance/Milestones:

- Seeking \$2M for 18-month runway.
- Plan to establish lab operations with high-throughput automation, conduct clinical validation studies, and seek regulatory approvals.
- Aim to obtain early revenue from pharma studies.

Company History/Focus:

- Early cancer detection can greatly improve survival rates, but blood-based detection of small tumors or recurrences has been extremely challenging.
 - The Patel laboratory at Yale has been working for over a decade to develop and validate techniques for ultrasensitive measurement of tumor-derived DNA in a patient's blood.
 - Binary Genomics now seeks to commercialize a blood test that is capable of detecting early-stage tumors and early recurrences at low cost based on tumor-specific genomic and epigenomic DNA signatures in blood.
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Market Size/Unmet Need:

- US Market is ~\$10B for recurrence monitoring and ~\$22B for screening.
 - Based on 5M cancer survivors undergoing quarterly surveillance tests and 90M adults above age 55 eligible for annual screening, with ~50% compliance rate.
 - Estimated revenue per test: ~\$500.*
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Products/Services:

- Blood test intended for applications requiring exquisite detection sensitivity: cancer screening + recurrence monitoring.
 - Applicable to multiple tumor types - epigenomic and genomic aberrations are common features of all cancers.
 - Testing conducted in a reference lab setting (samples shipped to Binary Genomics for analysis).
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Competition/Competitive Advantage:

- Major competitors include very well-funded or publicly-traded companies such as Guardant Health, Grail, Natera, Exact Sciences, and Thrive.
 - However, Binary Genomics' technology has 2- to 5-fold lower cost than competitors, and can evaluate multiple cancer types simultaneously.
 - Low plasma input (1-2mL) permits analysis of banked samples from clinical trials (value to Pharma).
 - Recurrence monitoring does not require patient-specific assay customization (unlike competitors), resulting in lower cost and quicker turn-around time.
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Intellectual Property:

- One awarded patent, two pending patent applications.
 - IP rights have been released to Dr. Patel by Yale University.
 - Publications in Nature Methods, Cancer Research, Clinical Cancer Research.
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* Estimated reimbursement of \$500 per test is based on comparable Medicare reimbursement rate for existing Cologuard stool-based screening test for colorectal cancer.