Free Writing Prospectus filed pursuant to Rule 433.
Registration Statement on Form S-1 (File No. 333-264463)
May 25, 2022

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This presentation includes "forward-looking statements." All statements, other than statements of historical facts included in this presentation, which address future activities, events, or developments, including but not limited to such things as future revenues, potential markets, market acceptance, competitors, capital expenditures (including the amount and nature thereof), business strategy and measures to implement strategy, competitive strengths, goals, expansion and growth of our business and operations, plans, references to future success and other such matters, are "forward-looking statements." These statements relate to future events or future predictions including events or predictions relating to our future financial performance, and are generally identifiable by the use of such words as "may," "will," "should," "expect," "plan," "anticipate," "believe," "feel," "confident," "estimate," "predict," "only," "potential," or "continue," or the negative of such terms or other variations on these words or comparable terminology. These statements are only predictions and involve known and unknown risks, uncertainties, and other factors, including the risks outlined under "risk factors," that may cause our or our industry's actual results, levels of activity, performance, or achievements to be materially different from any future results, levels of activity performance, or achievements expressed or implied by such forward-looking statements. These statements are based on certain assumptions and analyses made by bioAffinity Technologies, Inc. in light of its experience and its assessment of historical trends, current conditions, and expected future developments as well as other factors it believes are appropriate in the circumstances. However, whether actual results will conform to our expectations and predictions is subject to a number of risks and uncertainties that may cause actual results to differ materially, including the risks and uncertainties discussed in this presentation; our ability to consummate and sustain our business strategy, including general economic, market or business conditions; the opportunities (or lack thereof) that may be pursued by our Company; competitive actions by other competitors; costs and expenses of regulatory actions and other factors, many of which are beyond our control.

Consequently, all of the forward-looking statements made in this presentation are qualified by these cautionary statements, and there can be no assurance that the actual results anticipated by the Company will be realized or, even if substantially realized, that they will have the expected consequences to or effects on the Company or its business or operations.

This presentation highlights basic information about us and the offering. Because it is a summary that has been prepared solely for informational purposes it does not contain all of the information that you should consider before investing in our Company. Except as otherwise indicated, this presentation speaks only as of the date hereof.

This presentation does not constitute an offer to sell, nor a solicitation of an offer to buy, any securities by any person in any jurisdiction in which it is unlawful for such person to make such an offering.

Neither the Securities and Exchange Commission (the "SEC") nor any other regulatory body has approved or disapproved of our securities or passed upon the accuracy or adequacy of this presentation. Any representation to the contrary is a criminal offense.

This presentation includes industry and market data that we obtained from industry publications and journals, third party studies and surveys, internal company studies and surveys, and other publicly available information. Industry publications and surveys generally state that the information contained therein has been obtained from sources believed to be reliable. Although we believe the industry and market data to be reliable as of the date of this presentation, this information could prove to be inaccurate. Industry and market data could be wrong because of the method by which sources obtained their data and because information cannot always be verified with complete certainty due to the limits on the availability and reliability of raw data, the voluntary nature of the data gathering process and other limitations and uncertainties. In addition, we do not know all of the assumptions that were used in preparing the forecasts from the sources relied upon or cited herein.

We have filed a Registration Statement on Form S-1 (File No. 333-264463) with the SEC, including a preliminary prospectus dated May 25, 2022 (the "Preliminary Prospectus"), with respect to the offering of our securities to which this communication relates. Before you invest, you should read the Preliminary Prospectus (including the risk factors described therein) and, when available, the final prospectus relating to the offering, and the other documents we have filed with the SEC, for more complete information about us and the offering. You may obtain these documents, including the Preliminary Prospectus, for free by visiting EDGAR on the SEC website at https://www.sec.gov.

Alternatively, we or any underwriter participating in the offering will arrange to send you the prospectus if you request it by calling **646-998-7602 or by email at** cap-mkts@wallachbeth.com.

Most Patients are Diagnosed with Late-Stage (Stages III-IV)[1] Lung Cancer when Survival is Low

1.8M
Lung cancer deaths worldwide each year[2]

20.5%
Overall 5-year survival rate[1]

92%
10-year survival if detected and treated Stage I[3]

There is a need for **early lung cancer detection** to **increase survival.**

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Our first test, **CyPath® Lung**, is a *non-invasive and cost-effective test for the **early detection of lung cancer.***

Used in conjunction with screening, CyPath® Lung is predicted to **increase survival**, **reduce unnecessary invasive procedures, lower medical costs and improve** the positive predictive value of **screening by a factor of five. [4]**

The **Positive Predictive Value** or PPV is the probability that patients with a positive test result truly have the disease.

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CyPath® Lung: Non-Invasive, Cost-Effective Greater Confidence in Patient Care

92% Sensitivity*
87% Specificity*

Negative Predictive Value 99%*

- A multi-site, 150-patient test-validation trial of high-risk and Stages I-IV cancer patients was conducted by bioAffinity Technologies, resulting in 82% sensitivity and 88% specificity overall
- A majority of cancer patients had early Stages I-II lung cancer.
- *In individuals with nodules 20 mm or less(n=132), CyPath® Lung performed with 92% sensitivity and 87% specificity.

Sensitivity is the ability to correctly identify cancer in a person with the disease
Specificity is the ability to correctly identify a person without cancer,
Negative Predictive Value is the probability that subjects with a negative test truly do not have the disease

The Need for CyPath® Lung: Screening's Low Predictive Value[5]

Health provider recommends lung cancer screening for patients at high risk.

An estimated 18 million people in the U.S. are considered at high risk

Low Dose Computed Tomography (LDCT) detects nodule suspicious for cancer

Doctor Orders CyPath® Lung

LDCT Positive Predictive Value is 3.8% Out of 100 positive results that can lead to invasive follow-up, only 4 have lung cancer.[5]

Patients with a CyPath® Lung result indicating a **likelihood of cancer** should consider **more aggressive follow up**; patients with result of **unlikely** for cancer **continue to be followed by screening**

Sample Collection at Home and Results in 3 Days Leads to Greater Confidence in Patient Care

Doctor visit	@ home	@ laboratory	Results

Physician orders CyPath® Lung test for high-risk patients

Patients complete a **3-day** sample collection at home

shipping overnight

Processing including 20-minute data acquisition and automated analysis

Physician receives results within **3 days** after lab receives sample

Automated Analysis is Incorporated into Flow Cytometry to Detect Early-Stage Cancer in the Lung

1 **Proprietary automated software ensures only cells of interest are interrogated.**

The first step of the automation identifies sputum cells of interest and eliminates small debris, dead cells, and cell aggregates.

2 **Quality control assures the sample comes from the lung**

Cells stained with a fluorescently labelled antibody specifically identifies lung macrophages to ensure the sample comes from the lung

3 **An algorithm built by machine learning detects lung cancer in people at high risk**

Cancer is detected based on 4 parameters:
Porphyrin TCPP signal density
Viability dye signal density
Immune cell (non-macrophage) signal density
Patient Age

4 **Results guide physicians in next steps in patient care**

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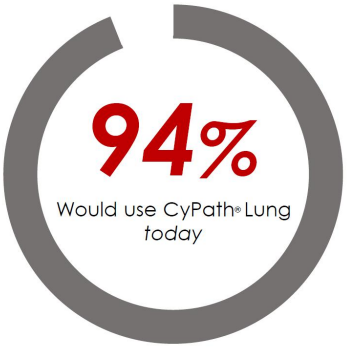
Physicians Survey* Suggests Strong Adoption of CyPath® Lung



*** Market research of 240 pulmonologists and internists shows physicians are highly likely to order CyPath Lung to their patients as an adjunct with LDCT screening for diagnosis**

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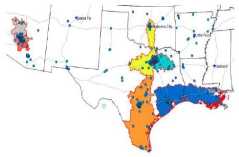
Commercial Traction, Planning, and Expansion Strategy



1

Southwest Controlled Market Launch Followed by Staged Nationwide Market Entry

Initial Southwest launch to refine commercial approach

CyPath® is licensed to CAP/CLIA certified Precision Pathology Services for sale as LDT

Existing CPT codes are available with a reimbursable track record for CyPath® Lung

2

Entering the European Union Market

First Entry: The Netherlands followed by stepped EU expansion

Path to market: Partnership with established laboratories, marketing, sales force and customers

CyPath ® Lung may be used to identify high-risk patients who can benefit by screening

3

FDA-Cleared Test Expands US Market

FDA approval of test following pivotal clinical trial further expands US market

FDA pivotal trial begins 2022 targeting high-risk patients screened for lung cancer

FDA approval provides for broader claims, possibly higher reimbursement

4

ROW Including World's Largest Market

CyPath® Lung expands to Rest of the World (ROW) including China, a market estimated at $5+BChina, Southeast Asia, Australia, Central and Eastern Europe

+300 million smokers in China alone[7]

Partner with key distributors in Canada, Southeast Asia, Australia, and Central / Eastern Europe

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CyPath® Lung: Comparison to Current Standards of Care for Follow-Up after Positive LDCT

Lung Cancer Diagnostic Procedure or Test	*Sensitivity*	*Specificity*
CyPath® Lung (individuals at high risk with nodules less than 20mm)	**92%**	**87%**
FDG PET imaging (individuals with suspicious lung nodules)	88%	75%
Bronchoscopy (individuals with suspicious lung nodules – central lesions)	88%	47%
Fine Needle Biopsy (individuals with suspicious lung nodules)	90.4%	75.4%
Core Needle Biopsy (individuals with suspicious lung nodules)	89.1%	88.6%

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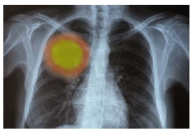
CyPath® Lung's Competitive Advantages



The sample is excellent. Sputum is in close contact with the tumor and pre-cancerous areas that shed cancer and pre-cancerous cells directly into the sample. Sputum can be obtained noninvasively and transported easily.

The technology is well established. CyPath® uses flow cytometry to investigate cells for characteristics indicating cancer is present. Sample processing is straightforward. Laboratory technicians can be easily trained. Data acquisition and analysis is fully automated, allowing for efficient test results.

CyPath® Lung shows high specificity and sensitivity that is similar to far more invasive and more expensive procedures currently used to detect lung cancer.

CyPath® Lung is cost effective. Existing CPT cost codes that have a reimbursable track record have been identified for use

CyPath® Lung is patient friendly, providing at-home sample collection that is noninvasive and offers particular benefit during a public healthcare crisis like the coronavirus pandemic.

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Therapeutic Research

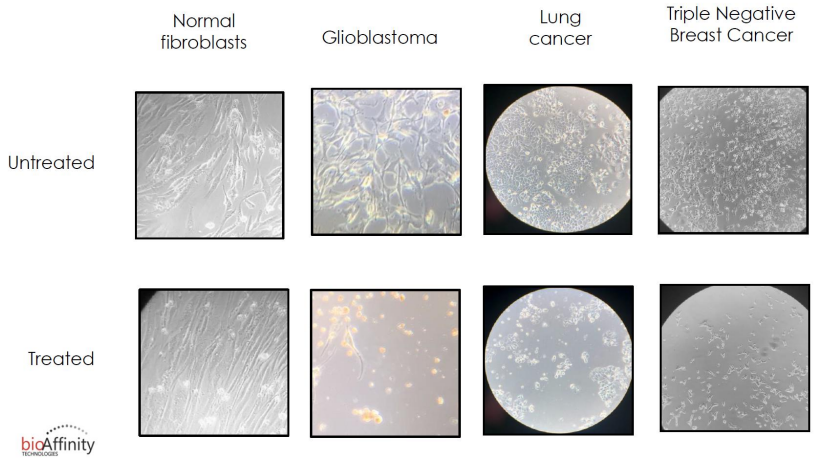
bioAffinity will build on foundational research to advance cancer therapeutics

Our Therapeutic Discoveries Kill Cancer Cells *in vitro** Without Apparent Harm to Healthy Cells

- **Generality:** We hypothesize that our discoveries target a fundamental cancer vulnerability that shows applicability in many cancers
- **Specificity:** Our discoveries relate to the knock-down of specific cell surface markers that have a pronounced deadly effect on cancer cells and appears not to harm normal cells
- **Potential:** Our discoveries are protected by bioAffinity with 15 patent applications that cover multiple novel treatment approaches
- **Opportunity:** bioAffinity expects to advance its therapeutics by partnering and licensing for development. Animal studies to begin Q3 2022.

*In vitro studies are performed outside the body such as research conducted on cells grown in a petri dish.

Our Therapy is Toxic to Cancer Cells
Healthy Cells Appear Unaffected

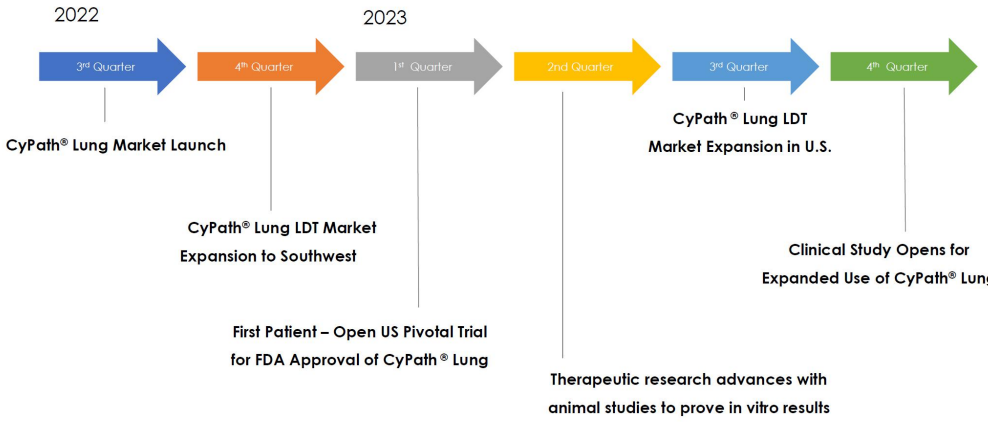


Cancer Cell types tested:

- **Lung**
- **Brain**
- **Melanoma**
- **Prostate**
- **Breast**

Our Team and Milestones

bioAffinity Projected Milestones Post-IPO



Management: Innovative, Experienced, Dedicated

Maria Zannes, JD
Founder, President & CEO

30+ years as C-suite executive in the medical and tech fields; building strong corporate teams that meet ambitious business goals

Vivienne Rebel, MD, PhD
EVP and Chief Science and Medical Officer

20+ years as a leader in cancer research; 11 years at Harvard's Dana Farber Cancer Institute; awarded UT Cancer Therapy and Research C Center Discovery of the Year

Michael Edwards, *MBA, CPA*
CFO

25+ years in corporate finance including CFO for CytoBioscience and OncoVista Innovative Therapies; comptroller at U.S. Global Investors and Bionumerik Pharmaceuticals

Science & Medical Advisory Board

Neil Alexis, PhD
Principal Investigator, University of North Carolina School of Medicine Center for Environmental Medicine, Asthma and Lung Biology

Gerard Silvestri MD, MS, FCCP,
Professor of Medicine and Lung Cancer Pulmonology, Medical University of South Carolina; practicing pulmonologist

David Hill, MD
Director, American Lung Association; Assistant Professor Yale School of Medicine; practicing pulmonologist

Catherine Sears MD
Assistant Professor, Indiana University School of Medicine; practicing pulmonologist

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bioAffinity Board of Directors

Decades of Successful Leadership from Start-Ups to Global Corporations

Steve Girgenti
Executive Chairman

Founded Healthworld, a leading global healthcare marketing firm with 36 offices in 26 offices worldwide; NASDAQ's "Entrepreneur of the Year" (1999)

Stuart Diamond
Director

Global Chief Financial Officer for GroupM, the world's leading media investment company responsible for more than $50 billion in media investment.

Moshin Maghji
Director

Managing Partner of M3 Partners L.P., a New York-based merchant banking firm; nationally recognized as a leading U.S. turnaround professional; Chairman of the Board of Infrastructure & Energy Alternatives

Peter Knight
Director

Founding Partner of Generation Investment Management with assets under management exceeding $18 Billion; Campaign Manager for President Clinton's 1996 re-election campaign

Gary Rubin
Director

Certified Public Accountant, Co-founder and Managing Member of Masters Research Partners, LLC, an investment Fund of Hedge funds

Maria Zannes, JD
Director

30+ years as C-suite executive in the medical and tech fields; Company founder who has built strong corporate teams that meet ambitious business goals

Robert Anderson
Director

50+ years in healthcare holding executive positions at CIBA Pharmaceutical Co, Becton Dickinson, Pfizer, Parke-Davis Division of Warner-Lambert, and Schering Plough Corp.

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Footnotes:

1. SEER Cancer Statistics Review, 1975–2018; https://seer.cancer.gov/statfacts/html/lungb.htm

2. The Cancer Atlas, Third Edition, American Cancer Society (ACS), World Health Organization (WHO) and The Union for International Cancer Control (UICC); https://canceratlas.cancer.org/the-burden/lung-cancer/.

3. The International Early Lung Cancer Action Program Investigators, Survival of Patients with Stage I Lung Cancer Detected on CT Screening. N. Engl. J. Med. 2006;355:1763-71.

4. Analysis of the Potential Diagnostic, Patient And Economic Impact of CyPath® Lung When Used After LDCT Screening to Detect Lung Cancer, bioAffinity Technologies Internal Analysis with citations, 2022; attached as Appendix I of the prospectus

5. Aberle DR, Adams AM, Berg CD, et al. Reduced lung-cancer mortality with low-dose computed tomographic screening. N. Engl. J. Med. 2011;365:395-409.

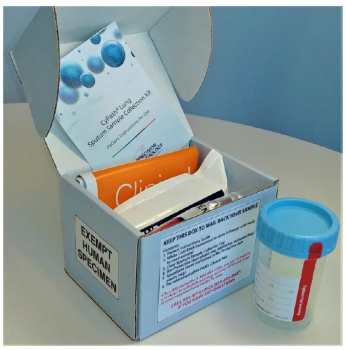
6. Pratt A, Pastorelli A. The Bill China Cannot Afford: health, economic and social costs of China's tobacco epidemic. World Health Organization Regional Office for the Western Pacific; 2017. Accessed February 8, 2022. https://apps.who.int/iris/bitstream/handle/10665/255469/9789290617907-eng.pdf?sequence=1&isAllowed=y.

RISK FACTORS

Like any emerging growth company, **we face significant risk factors** that may impede our plans for successful commercialization of our diagnostic and therapeutic products. **These risks are discussed in detail under the "Risk Factors" discussion beginning on page 14 of the prospectus.**

- our limited operating history and history of net losses since our inception;
- our need to obtain substantial additional funding to complete the development and commercialization of our tests and therapeutic product candidate;
- potential dilution to our stockholders, including purchasers of Common Stock in this Offering, resulting from the conversion of our preferred stock, par value $0.001 per share (our "Preferred Stock") and convertible debt outstanding, and potential restrictions, due to raising additional capital;
- the impact of a material weakness identified in our internal control over financial reporting;
- the early stage of our development efforts;
- the unpredictability of future trial results and the risk of experiencing delays in the enrollment and/or retention of patients in clinical trials;
- the difficulty in predicting the results, timing, and cost of our development of our diagnostic tests and therapeutic product candidates and the likelihood of obtaining regulatory approval;
- the risk that the FDA may not agree with our LDT regulatory strategy or that Congress may enact legislation giving the FDA new authorities to regulate LDTs;
- the lengthy, time consuming, and unpredictable nature of regulatory approval processes;
- the risk that our preclinical studies and clinical trials fail to demonstrate the safety and efficacy of our diagnostic tests or therapeutic product candidates;
- the risk that data from clinical trials conducted outside of the United States may not be accepted by regulatory authorities;
- the impact of ongoing regulatory obligations and continued regulatory review, even if we receive regulatory approval for any of our diagnostic tests or therapeutic product candidates;
- our lack of control over the supply, regulatory status, or regulatory approval of third-party drugs or biologics with which our diagnostic tests or therapeutic product candidates are used in combination;
- our lack of control over the conduct of investigator-initiated clinical trials or other clinical trials sponsored by organizations or agencies other than us;
- the risk that we fail to develop additional diagnostic tests or therapeutic product candidates;
- the risk that we are unable to penetrate multiple markets;
- the risk that our diagnostic tests and therapeutic product candidates may fail to achieve market acceptance, even if they receive marketing approval;
- if we are unable to obtain and maintain sufficient intellectual property protection for our platform and our diagnostic tests or therapeutic product candidates, or if the scope of the intellectual property protection is not sufficiently broad, our competitive position may be adversely affected;
- the price of our stock may be volatile, and you could lose all or part of your investment. Unstable market and economic conditions may have serious adverse consequences on our business, financial condition and stock price;
- our success is highly dependent on our ability to attract and retain highly skilled executive officers and employees;
- we face significant competition from biotechnology and pharmaceutical companies; our operating results will suffer if we fail to compete effectively; and
- our business is affected by the ongoing COVID-19 pandemic and may be significantly adversely affected as the pandemic continues or if other events out of our control disrupt our business or that of our third-party providers.

For More Information



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