ProPhase LABS

September 2024

# Investor Presentation

ProPhaseLabs.com

**NASDAQ: PRPH**

# FORWARD LOOKING STATEMENTS

Except for the historical information contained herein, this document contains forward looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, including statements regarding our strategy, plans, objectives and initiatives, including our expectation to enter into new agreements for Pharmaloz, our expectations regarding the future revenue growth potential of each of our subsidiaries, our expectations regarding future liquidity events, the expected timeline for commercializing our BE-Smart Esophageal Cancer Test, our ability to enter into new domestic and international long-term contracts for our Nebula Genomics business and the financial impact of any such contracts, the anticipated timing for the receipt of new equipment and installation of additional lozenge lines and their ability to increase capacity and revenue, our anticipated expenses, ability to obtain funding for our operations and the sufficiency of our cash resources, and the expected timeline for the launch of Equivir capsules. Management believes that these forward-looking statements are reasonable as and when made. However, such forward-looking statements involve known and unknown risks, uncertainties, and other factors that may cause actual results to differ materially from those projected in the forward-looking statements. These risks and uncertainties include but are not limited to our ability to obtain and maintain necessary regulatory approvals, general economic conditions, consumer demand for our products and services, challenges relating to entering into and growing new business lines, the competitive environment, and the risk factors listed from time to time in our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and any other SEC filings. The Company undertakes no obligation to update forward-looking statements except as required by applicable securities laws. Readers are cautioned that forward-looking statements are not guarantees of future performance and are cautioned not to place undue reliance on any forward-looking statements.

# OUR BEST IS YET TO COME!
# PERFORMANCE TRACK RECORD

**2012**

Ted Karkus, CEO, restructures and turns around the Company. Stock bottoms at $.65 per share.

**2017**

Sold the Cold-EEZE cold remedy brand for $50m to Mylan Pharmaceuticals.

**2018**

From 2018 to 2022 we delivered shareholder value through special cash dividends of $2.40 per share in total.

**Q4 2020**

We commenced CLIA lab services for COVID-19 testing. Generated enormous revenues and earnings for the following two years. Cash flow used to diversify the company for long term growth.

**2021**

Acquisition of Nebula Genomics. Providing whole genome sequencing with proprietary world class reporting features direct to consumer. Significant upside.

**Q2 2022**

We exclusively licensed two potential broad based anti-virals, Equivir (Dietary Supplement) and Equivir G (Rx)

**Q4 2022**

We acquired worldwide exclusive rights to the BE-Smart Esophageal Pre-Cancer diagnostic screening test and related intellectual property assets. Multi-billion-dollar potential.

**Q1 2023**

Reported FY 2022 results – Net Revenue: $122.6M, Net Income: $18.5M, Adjusted EBITDA: $38.6M

**Q4 2023**

We opened a world class whole genome sequencing (WGS) lab in Garden City, NY. This includes 4 leading platforms of WGS equipment. Capable of providing incredibly low prices which creates major opportunities.

**2024**

We began our expansion plan for Pharmaloz in 2024. New, automated equipment installed, significantly increasing capacity. Number of customers growing rapidly, revenues and earnings growing significantly going into 2025.*

- Management's analysis and guidance announced by ProPhase Labs on January 23, 2024: https://www.globenewswire.com/en/news-release/2024/01/23/2814037/0/en/Pharmaloz-Manufacturing-Accelerates-Expansion-Improves-Pricing-Boosts-Profitability-and-Secures-New-Contracts.html


# Pharmaloz
Manufacturing, Inc.

TK SUPPLEMENTS®

# NEW STRATEGIC INITIATIVES CREATE SIGNIFICANT OPPORTUNITIES FOR LIQUIDITY AND VALUE CREATION*

**Hired Think Equity investment bank to explore strategic alternatives including a potential sale of Pharmaloz Manufacturing.***

60,000 square feet on 12 acres – currently operating at full capacity.

Growing customers and expanding production capacity ahead of schedule. Demand continues to grow significantly.

Signed two top-tier lozenge brands adding an additional $5m annualized revenues with significant profit margins*.

In late-stage discussions to add several new brands.

Increased prices on all customers effective Q1 2024.

Company estimates $16-18 million in revenues and $6 million+ in pre-tax profits for calendar 2025.

Starting in January a large new customer will start production of a non-seasonal lozenge, improving off-season business.

Lozenge manufacturing line #2 installation planned for H2 2024. In discussions with a large customer to take all of this capacity beginning in the second half of 2025. This customer alone could add an additional $17 million plus in revenues.

Lozenge line #3 planned for H2 2025 would increase capacity to $75-$90 million.

The new lines are the most efficient in the world, highly automated, require less labor and can therefore deliver both increased revenues and improved margins.


*https://ir.prophaselabs.com/news-events/press-releases/detail/214/prophase-labs-announces-update-on-pharmaloz-manufacturing


Nebula Genomics

# MEET GEORGE CHURCH, FOUNDER OF NEBULA GENOMICS AND SCIENTIFIC ADVISOR

**Mission: To usher in the era of personal genomics by providing access to affordable and secure Whole Genome Sequencing.**

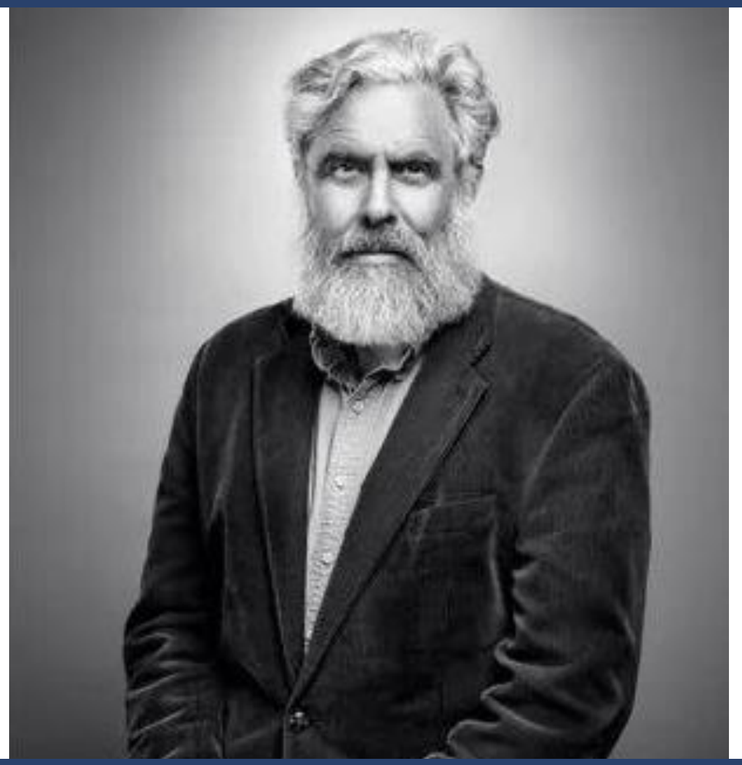
Nebula Genomics turns these breakthrough technologies into B2C and B2B products available around the globe.

**Prof. George Church**, co-founder of Nebula Genomics; Professor of Genetics at Harvard Medical School and Professor of Health Sciences and Technology at Harvard University and the Massachusetts Institute of Technology (MIT).

**Contributed to the development of multiple DNA sequencing methods.** In particular, molecular multiplexing approaches that enabled next-generation DNA sequencing as well as long-read nanopore sequencing.

**Initiated the Personal Genome Project** whose pioneering work contributed to the development of DNA sequencing and genome engineering technologies for which he received multiple awards including the 2011 Bower Award and Prize for Achievement in Science from the Franklin Institute and election to the National Academy of Sciences and Engineering.

**Co-authored over 550 publications; more than 150 patents;** authored the book, “Regenesis: How Synthetic Biology Will Reinvent Nature and Ourselves”; started over 20 companies.



**"Genome sequencing is like the internet back in the late 1980s."**

George M. Church
Professor - Harvard and MIT
Co-founder - Nebula Genomics

# NEBULA GENOMICS

Nebula Genomics is a world-class Whole Genome Sequencing and Bioinformatics provider.

## WGS Technology

Our WGS DNA technology analyzes 100% of your DNA compared to typical DNA Ancestry tests that analyze less than 1% of your DNA, at a competitive price. This provides more accurate and in-depth health and ancestry reports.

## State-of-the-art Laboratory

We operate a world class, state-of-the-art, 30,000-SF WGS laboratory located in the U.S.

## World-Class Database

Built over 6 years with WGS data from more than 130 countries—that's equivalent to more than 150 million DNA Ancestry tests.

## Proprietary Bioinformatics Platform

340+ personalized health reports covering Longevity, Mental Health, Cancer & more.

## World-Renowned Advisory Board

George Church, Harvard & MIT
Russ Altman, Harvard & Stanford
Patrick Merel, Genomics Professional, Abu Dhabi

## NEW SIGNIFICANT UPDATES

### Launch of DNA Complete

Shape The Future of Your Health and Explore Your Ancestry with DNA Complete

- Launching a comprehensive marketing campaign featuring top influencers, managed by an experienced marketing leader with a proven track record in building global brands.
- The new offering is designed to deliver the most robust genetic user platform, industry-leading pricing and faster turnaround times.
- The revamped product will harness Nebula's cutting-edge bioinformatics platform and the launch of its' proprietary advanced Ancestry platform, offering customers unparalleled analysis of their genomic data.
- Offering genetic counseling services, enhancing the value proposition for customers.

### DNA Expand

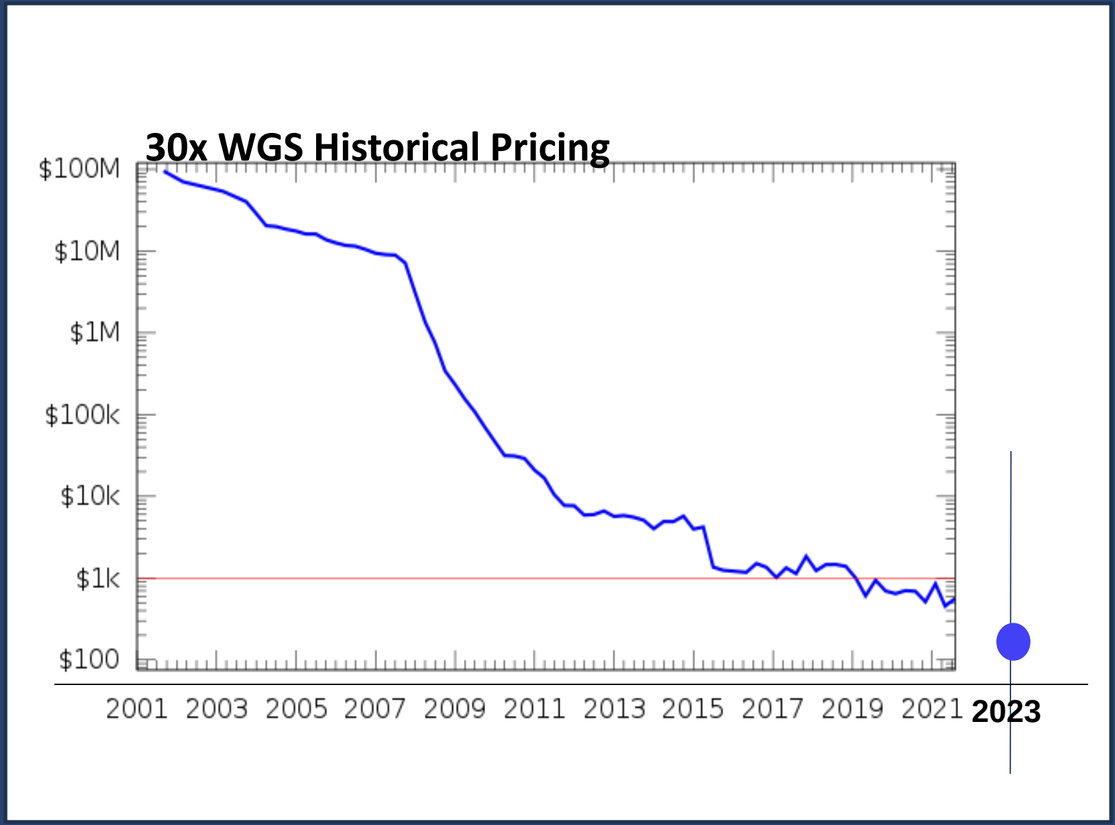
- Users effortlessly upload their DNA data from other DNA Ancestry tests to unlock our proprietary reports and advanced features.
- Organic User Growth: Scaled to 10,000+ active users with a pure word-of-mouth buzz.

### WGS and SAAS Solutions provider B2B

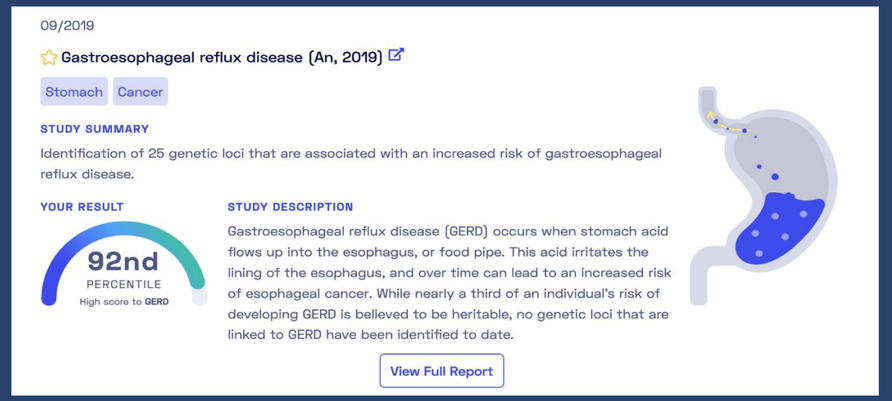
- As pioneers of DTC WGS, Nebula Genomics is a leading service provider to health, wellness, and longevity centers, leading academic researchers and other WGS service providers across the globe.
- Nebula is the chosen service provider for its unwavering commitment to quality, industry-leading turnaround times, robust data security and cost effectiveness as compared to other DNA sequencing providers.

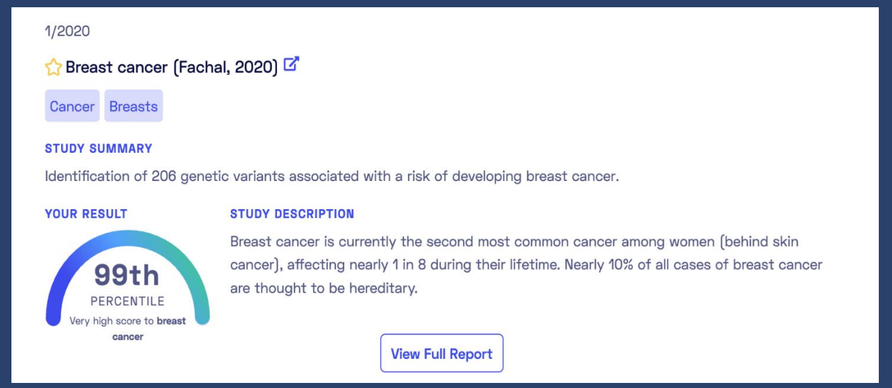
# WHOLE GENOME SEQUENCING + REAL WORLD APPLICATION

Emerging technologies have helped to significantly decrease the cost of Whole Genome Sequencing, making it more affordable to consumers.




Examples of sample reports provided by Nebula – based on your sequencing results. Nebula digests global genetic research and keeps you informed regularly about the latest genomic discoveries.

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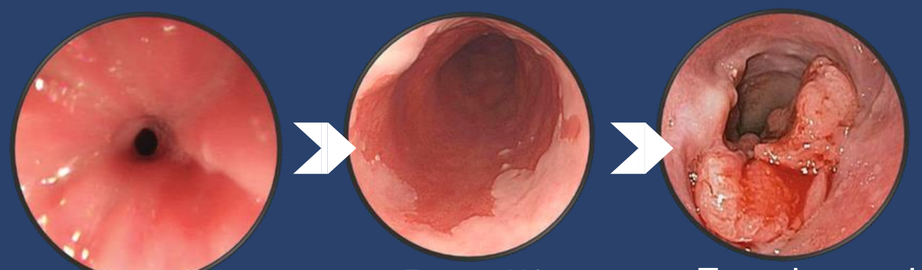
BIOPHARMA

# BE-Smart™ ESOPHAGEAL CANCER DIAGNOSTIC

## ESOPHAGEAL ADENOCARCINOMA (EAC) – ONE OF THE DEADLIEST CANCERS

- 16,000+ Estimated Deaths in 2023 in the U.S.[1]
- 78.3% - 5-Year Mortality Rate (2013-2019)[1]
- 21,000+ Estimated New Cases in 2023[1]
- The change in the annual incidence of EAC was 766.67% higher in 2017 compared to 1973[2]
- Journal of American Medical Association once again reported that GI cancers for the 2nd straight decade are the fastest growing cancer type in America[3]




**Gastroesophageal Reflux Disease (GERD)** occurs when stomach acid repeatedly flows back into the esophagus. Backwash (acid reflux) can irritate the lining of esophagus. Many experience acid reflux from time to time; for some, GERD may trigger a change in the cells lining the lower esophagus causing **Barrett's Esophagus**.

**Barrett's Esophagus** - esophagus becomes damaged by acid reflux; causes the lining to thicken and become red. Associated with increased risk of developing **Esophageal Adenocarcinoma**.

Discovering pre-cancerous tissue in early and treatable stages may increase disease survival and decrease cost of care. As high as 40% of esophageal carcinoma is missed or found late leading to more unfavorable diagnosis.

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1- - https://bit.ly/40ONuqt - Cancer Stat Facts: Esophageal Cancer
2- . https://bit.ly/3KGWGr9 - Epidemiology of early esophageal adenocarcinoma
3- . https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2808381

# ADVANTAGES OF THE BE-Smart™ ESOPHAGEAL CANCER DIAGNOSTIC COMPARED TO LIQUID BIOPSIES

- ✓ BE-Smart is taking EXISTING biopsy blocks from routine endoscopies, which is the standard of care for diagnosis of GERD, Barrett's Esophagus and esophageal adenocarcinoma. No additional samples are needed from patients after the endoscopy. With liquid biopsies, the patient would have to return to the physician's office to draw the blood.

- ✓ BE-Smart is highly sensitive and specific in distinguishing early-stage esophageal adenocarcinoma. On the other hand, liquid biopsies require the cancer to spread to neighboring tissue and blood vessels in order to produce detectable markers in the blood.

- ✓ Our BE-Smart test examines the suspicious tissue DIRECTLY, not a bi-product somewhere in the blood. In liquid biopsies, there are factors that can create many false positives and false negatives as the tested markers are at very low concentrations. These factors can be other pathological and non-pathological conditions, including exercise, trauma, and surgery.[1]

- ✓ We are testing the affected tissue directly on a clinically proven instrument (mass spectrometer), which is highly sensitive. BE-Smart is a molecular test that analyzes if a suspicious tissue will progress to cancer.

- ✓ By directly analyzing the affected tissue, the BE-Smart test detects early stages of cancer before markers have entered the blood.

- ✓ FDA Approved liquid biopsy tests on the market are used to monitor a disease or to determine treatment path of a disease. They are still required to be used in combination with standard tests such as endoscopies.

**Conclusion:** The utility of BE-Smart can be quite significant. The BE-Smart test can determine early carcinogenesis of biopsies in which a pathologist might be on the fence and/or mistakenly classify as non-cancerous. This can literally mean the difference between life and death for the patient. An accurate and early diagnosis can lead to more effective and earlier treatments which can lead to significantly better outcomes for the patient.

1. :Braig D., Becherer C., Bickert C., Braig M., Claus R., Eisenhardt A.E., Heinz J., Scholber J., Herget G.W., Bronsert P., et al. Genotyping of circulating cell-free DNA enables noninvasive tumor detection in myxoid liposarcomas. Int. J. Cancer. 2019;145:1148–1161. doi: 10.1002/ijc.32216.

# OPPORTUNITY TO PREVENT ESOPHAGEAL CANCER

| | |
|---|---|
| Prevalence of GERD in the U.S ranges from 18.1% to 27.8% in North America (Census 303 million)[1] | ~ 60 million |
| Prevalence of Barrett's Esophagus in the U.S. is 5.6% of the population (Census 303 million) | ~ 16 million |
| New Cases of Esophageal Adenocarcinoma in U.S. per year[1] | ~ 20K |
| Endoscopy (upper) related to Barrett's Esophagus average[1] | ~ 2 million |
| Endoscopy (upper) related to GERD and Barrett's Esophagus average | ~ 7 million |

*1 - Barrett Esophagus: Rapid Evidence Review | AAFPGastroesophageal Reflux Disease - StatPearls - NCBI Bookshelf (nih.gov)Esophageal Cancer — Cancer Stat Facts U.S. GI Endoscopy Volumes: Biggest Change Is Increases in Upper Endoscopic Ultrasound - Endoscopy Campus (endoscopy-campus.com)Management of Barrett's esophagus - American Gastroenterological Association*

| | |
|---|---|
| Target Market Endoscopies: | ~2-7mm |
| Estimated average cost per test: | $1k-$2k |
| **Total Addressable Market:** | **~$2-$14bn** |

# BE-Smart™ - ESOPHAGEAL CANCER DIAGNOSTIC

**ProPhase is collaborating with Forward Healthcare Consultants (FHC)** to bring its BE-Smart esophageal cancer test to market. FHC will assist with securing market access by focusing on coverage, pricing and coding. Additionally, FHC will bring its vast relationships with physician networks to drive commercialization success.*

**FHC is a world-renowned consulting company** that has provided its support to a litany of pharmaceutical companies and helped them grow from small start-ups with development stage products to multi-billion-dollar enterprises with industry leading diagnostic applications.

**Continued refining the BE-Smart test algorithm** with new data analysis, enhancing its accuracy in predicting Barrett's Esophagus risk.

**Receiving an additional set of samples from Mayo Clinic to run a larger data set** and learn not just the core proteins associated with BE-Smart but also other potential targets for future use in therapeutic applications. Collaborating with Mayo Clinic and other experts to further validate the test through additional studies and peer-reviewed publications.

*Source: Company Press Release, August 13, 2024: https://ir.prophaselabs.com/news-events/press-releases/detail/216/prophase-labs-announces-collaboration-with-forward

# EQUIVIR CLINICAL TRIAL**

## Equivir Clinical Trials with Vedic Lifesciences

Final analysis targeted for completion in Q2 2024. Goal of launching in 2024 as an OTC dietary supplement.

Preliminary results*: Overall, in the initial 150 patient group, approx. 46 incidences of upper respiratory viral infections. 62.3% of the patients in the placebo group acquired a viral infection versus only 37.7% in the Equivir group.

Additional key statistics from the initial findings are:

- 39% of the placebo population acquired an upper respiratory viral infection vs 22.9% in the Equivir group.
- After 4 days of illness, only 3% of the Equivir group still had mild symptoms vs 55% in the placebo group.
- The average severity was 16% less severe when taking Equivir vs the placebo.
- No patients in the Equivir group became ill a second time while 2 patients in the placebo group had a second upper respiratory viral infection.

**Equivir is being developed with plans to market as an OTC dietary supplement. Therefore, the Company cannot make specific claims regarding Covid-19 [*or respiratory viral infection]* treatment or prevention and is not seeking the U.S. Food and Drug Administration's approval of Equivir as a drug. However, the Company plans to publish the results when both studies are completed.

*Preliminary results announced by ProPhase Labs on February 14, 2024: https://www.globenewswire.com/en/news-release/2024/02/14/2829018/0/en/ProPhase-Labs-Announces-Preliminary-Positive-Results-for-Dietary-Supplement-Equivir.html.html

# COMPETENT AND PROVEN EXECUTIVE MANAGEMENT TEAM

## Jed Latkin

COO
ProPhase Labs, Inc.

Jed A. Latkin served as a director and Chief Executive Officer of Navidea from October 2018, until October 2021. Mr. Latkin has more than 28 years of experience in the financial industry supporting many investments in major markets including biotechnology and pharmaceuticals. He most recently was employed by Nagel Avenue Capital, LLC since 2010, and in that capacity he provided contracted services as a CEO/CFO for numerous healthcare related firms. He serves on the board of Windtree Therapeutics. He worked for over ten years in Investment Banking at Citigroup, Morgan Stanley and Fleet Boston Robertson Stephens. He also spent five years as a CPM for ING Investment Management. Mr. Latkin earned a B.A from Rutgers University and a M.B.A. from Columbia Business School.

## Jason Karkus

President
Nebula Genomics

Jason drove explosive revenue growth at ProPhase Diagnostics, leading multiple areas including sales, business development, logistics operations, and account management. He oversaw the development of two CLIA-certified labs, generating approximately $200 million in revenues since 2021 and manages account managers and customer service reps who offer 24/7 service to exceed customer expectations. Jason now heads up business development for the rapid build-out of ProPhase's Nebula Genomics business.

With a background in sales and development at top real estate firms, Jason is a graduate of the University of Maryland.

## Sergio Miralles

EVP/CIO
ProPhase Labs, Inc.

Sergio Miralles is an experienced IT Leader with over 12 years of experience in enterprise level Cybersecurity, Infrastructure, and Architecture. Sergio is responsible for ensuring a complete end-to-end technology solution that links its lab customers' patient data via an interface to efficiently process and report results.

Previously, Sergio founded and led a successful IT consulting firm overseeing 18 IT consultants. For the last five years, his primary focus has been on the medical, lab, and diagnostics business. Sergio holds several certifications from Cisco, ISC2, and CompTIA.

## Kamal Obbad

SVP, Director of
Sales & Marketing
Nebula Genomics

Kamal is co-founder of Nebula Genomics. He received his undergraduate degree at Harvard University and did graduate studies in computer science as a Gates-Cambridge Fellow at the University of Cambridge. Prior to founding Nebula, Kamal led teams at Google.

For his work, Kamal has received multiple honors including being named to the Forbes 30 under 30 list.

## Lance Bisesar

Corporate Controller
ProPhase Labs, Inc.

Lance is an accomplished finance leader experienced in all areas of finance and accounting. Lance has over 17 years of experience in working with large brands, both public and private, of varying industries and sizes.

Prior to ProPhase Labs, Lance served in finance leadership roles at multiple large brand companies including Colgate-Palmolive, Casper Sleep, Newmark and Forest Laboratories, where he was responsible for all accounting matters including financial reporting, general accounting, and related internal controls functions. He began his career with five years in public accounting with Marcum LLP. Lance earned a BBA in accounting from Hofstra University. He is a certified public accountant and is a member of the American Institute of Certified Public Accountants.

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# INVESTMENT HIGHLIGHTS

**Expanding Pharmaloz Manufacturing** - One of the Largest Lozenge Manufacturing Companies in the U.S.

- Aggressively growing capacity to meet strong demand
- Turned profitable in Q1 2024
- Continuously growing customer base as capacity expands
- Anticipate revenues and earnings to continue growing rapidly for the foreseeable future

**Nebula Genomics is Well Positioned to Capitalize** on the Future Growth of Genomics and Personalized Medicine.

- Cutting-edge laboratory, globally competitive pricing, proprietary state-of-the-art bioinformatics reporting system
- Growing genomic database
- Significant direct-to-consumer and business-to-business opportunities

**BE-Smart Esophageal Cancer Test:** multi billion-dollar target market and hired FHC, world class consulting firm, to help realize this enormous opportunity.

**Equivir (OTC):** clinically studied dietary supplement with significant potential, leveraging existing infrastructure. Goal to commercialize H2 2024.

**A History of Returns** With a Diversified Business Model and potential for expansion that should yield significant value creation in 2024 and 2025.

**Competent and Proven Executive Management Team for more than a decade.**


# Thank You

ProPhase LABS

ProPhaseLabs.com

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