# ProPhase Labs Inc. – Disruptive Innovations in Cancer Treatment and Diagnostics with Project ZenQ-AI and BE-Smart Test Targeting Large Addressable Markets

**ProPhase Labs Inc. (NASDAQ: PRPH)**

| Share Price: $4.90 | Valuation: $21.00 |
|---|---|

## Key Statistics

| | |
|---|---|
| 52 Week Range | $4.05 – $9.94 |
| Avg. Volume (3 months) | 26.90K |
| Shares Outstanding | 18.05M |
| Market Capitalization | $88.42M |
| EV/Revenue | 1.9x |
| Cash Balance* | $1.61M |
| Analyst Coverage | 4 |

***Cash balance as of December 2023**

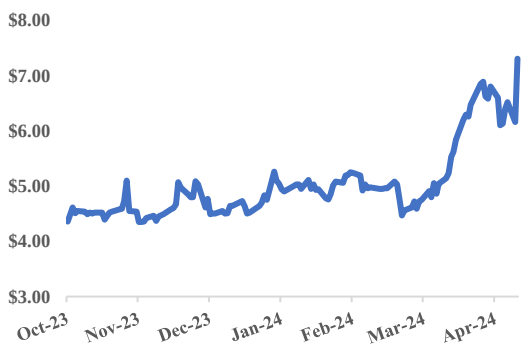
## Revenue (in $mm)

| Dec - FY | 2023A | 2024E | 2025E |
|---|---|---|---|
| 1Q | 19.30 | 15.72 | 31.13 |
| 2Q | 13.22 | 18.35 | 33.31 |
| 3Q | 8.37 | 23.85 | 35.64 |
| 4Q | 4.35 | 29.65 | 38.18 |
| FY | 45.24 | 87.57 | 138.26 |

## EPS (in $)

| Dec – FY | 2023A | 2024E | 2025E |
|---|---|---|---|
| 1Q | 0.03 | (0.15) | 0.10 |
| 2Q | (0.20) | (0.08) | 0.12 |
| 3Q | (0.30) | 0.04 | 0.12 |
| 4Q | (0.51) | 0.09 | 0.14 |
| FY | (0.98) | (0.10) | 0.48 |

## Stock Price Chart




## Investment Highlights

- **ProPhase Labs Advances Cancer Treatment with Project ZenQ-AI -** ProPhase Labs has introduced Project ZenQ-AI, a groundbreaking initiative in cancer treatment research. This new initiative marks a significant advancement in cancer treatment, combining ProPhase's sophisticated AI technology with an extensive genomics database and patented insights into esophageal cancer to innovate Antibody Drug Conjugates (ADCs) development. This approach not only redefines the development of ADCs but also establishes the groundwork for a series of transformative advancements, highlighting the company's strategic utilization of AI and genomics in combating cancer:
    - **Integration of Comprehensive Genomics and AI:** Project ZenQ-AI utilizes ProPhase's AI platform, developed using cutting-edge AI technology and systems, in conjunction with a vast genomic database amassed over six years from whole genome sequencing (WGS) tests conducted in more than 130 countries. This database, roughly equivalent to 150 million ancestry SNP-based tests, allows for a detailed genetic analysis at a scale significantly broader (examining all 3 billion base pairs of the human genome) than traditional SNP tests, which only analyze specific genetic variations at known locations.
    - **Advancement in ADCs through ZenQ-AI:** The project aims to create highly targeted ADCs, which connect chemotherapy agents to monoclonal antibodies specifically binding to cancer cell markers. This method reduces damage to healthy cells, combining the precision of antibodies with the potency of cytotoxics. Leveraging both genomic and proteomic data through ZenQ-AI enhances the rapid identification and design of ADCs targeting specific biomarkers and mutations driving cancer.
    - **Strategic Technological Deployment:** To handle the substantial computational demands, ProPhase Labs employs a hybrid technological approach, integrating AI and machine learning capabilities from major cloud providers with robust on-premises NVIDIA hardware. This setup ensures optimal data processing capabilities while maintaining high standards of data security and compliance.
    - **BE-Smart Initiative for Early EAC Detection:** The BE-Smart initiative, now part of Project ZenQ-AI, focuses on the early detection and understanding of esophageal adenocarcinoma (EAC), a notably deadly cancer lacking effective targeted treatments. Utilizing a detailed proteomic database, initial tests have shown high accuracy in detecting early-stage EAC, with plans for commercialization of the diagnostic test in the second half of 2024.
    - **Global Data Diversity via Nebula Genomics:** The project benefits from the global diversity of the Nebula Genomics database, which enhances the development of algorithms for identifying unique genetic markers and therapeutic targets across different populations, thereby improving the potential effectiveness of ADC treatments.
    - **Broad Implications for Oncology:** Project ZenQ-AI is positioned to influence the broader field of oncology, targeting more effective and less toxic treatments for various cancer types. The integration of comprehensive development and expertise from subsidiaries like Nebula Genomics and ProPhase BioPharma highlights the initiative's potential to lead breakthroughs in precision oncology.
    - **Open Invitation for Collaboration:** The company remains open to collaboration across the scientific and medical communities to join this transformative initiative, aiming to leverage AI and genomic insights to revolutionize cancer treatment methodologies.

## Company Description

ProPhase Labs, Inc. (Nasdaq: PRPH) is a diversified diagnostic, genomics, and biotech company seeking to leverage its CLIA lab services to provide whole genome sequencing and research directly to consumers and build a genomics database to be used for further research. The company also operates a contract manufacturing subsidiary and offers the TK Supplements line of dietary supplements, which are distributed in food, drug, and retailer stores.

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- **ProPhase Labs Anticipates H2 2024 Launch of BE-Smart Test for Esophageal Cancer** - ProPhase Labs announced significant advancements in its BE-Smart test for esophageal cancer, aiming for a commercial launch in the second half of 2024. The company highlights the test's potential to provide early, cost-effective detection of esophageal cancer, significantly improving patient outcomes. The BE-Smart test, a patented method for identifying esophageal cancer markers, is positioned as a major innovation in the management of esophageal adenocarcinoma (EAC), targeting a substantial market opportunity within the $7 to $14 billion range, estimated from the annual demand for endoscopies in the United States.

    - **Validation and Partnerships:** ProPhase is collaborating with mProbe Inc. and institutions like the Mayo Clinic and Genesis Clinical to finalize rigorous validation studies, ensuring the test's accuracy and reliability. The validation process is complemented by extensive partnerships with research hospitals across the U.S. and Europe, enhancing the test's database with diverse esophageal tissue samples. This broad data collection aims to refine the test's sensitivity and specificity continuously.

    - **Regulatory Preparation and Clinical Impact:** The company is preparing to submit the necessary documentation for the Advanced Diagnostic Laboratory Test (ADLT) application under the CPT coding system, which is essential for billing and insurance reimbursement. The anticipated reimbursement rates for the BE-Smart test range between $1,000 and $2,000 per test, based on the complexity of similar tests. The BE-Smart test utilizes advanced proteomics to detect EAC, addressing the dire need for effective diagnostics in one of the deadliest cancers, which currently lacks targeted treatments. By accurately stratifying patients into low or high-risk categories, the test promises to transform patient management in EAC, facilitating timely interventions and potentially reducing the need for frequent invasive procedures for low-risk individuals. This strategic approach aligns with ProPhase's commitment to enhancing patient care through innovative, targeted diagnostics and personalized treatment strategies.

- **Valuation -** We reiterate our valuation of ProPhase Labs, which has been actively pursuing growth through strategic expansions and innovative product introductions across its subsidiaries. Our updated valuation model incorporates the latest financial outcomes and refined estimates reflecting newly disclosed segment information. Furthermore, we have revisited our SOTP (Sum of the Parts) methodology, resulting in an adjusted valuation to $21.00 per share, up from the previous $20.00, contingent on the company's successful execution.



Please see last page for important disclosures

## Company Overview

ProPhase Labs, Inc. (NASDAQ: PRPH), headquartered in Long Island, NY, operates through a range of subsidiaries to deliver diversified healthcare solutions. Since its inception in 1989, the company has expanded its reach across various sectors of health and wellness. Pharmaloz Manufacturing, one of these subsidiaries, is currently experiencing rapid growth and specializes in the production of non-GMO, organic, and natural-based products. Notably, Pharmaloz offers a wide range of over-the-counter (OTC) manufacturing services and consumer healthcare product development, including cough drops, lozenges, OTC drugs, and dietary supplements. As it actively expands into high-margin liquid fill products, Pharmaloz is planning significant increases in production capacity and is targeting exponential year-over-year revenue growth. Additionally, Nebula Genomics provides accurate, high-quality, and competitively-priced genomic solutions. Nebula Genomics is enhancing its global footprint through significant business-to-business partnerships. It offers comprehensive genetic testing services that analyze over 99% of human DNA, providing deeper insights than typical ancestry tests. Its proprietary bioinformatics platform, enhanced by top-tier cyber protection measures, delivers in-depth genetic health insights, including information on rare genetic mutations and ancestry, at competitive prices. Nebula also offers genetic counseling for direct-to-consumer customers, adding significant value to its genetic testing solutions. ProPhase is also advancing the commercial launch of the BE-Smart Esophageal Cancer Test, anticipated in the second half of 2024. This test is poised to potentially revolutionize diagnostics for Barrett's Esophagus with its detailed risk assessment model, currently showing over 90% sensitivity and specificity. Equivir, another product of ProPhase Biopharma, has shown promising results in clinical trials, suggesting a potentially significant reduction in upper respiratory incidents. With comprehensive results expected soon, Equivir is preparing for a robust market introduction, aiming for extensive distribution and a strong market presence. Together, these ventures represent ProPhase Labs' strategy to pioneer advancements across multiple fronts of the healthcare sector, aiming to expand its leadership and impact on global health.

*ProPhase Labs, Inc. operates through its subsidiaries to offer a wide range of healthcare solutions and products, from organic health products to advanced genomic diagnostics, continually expanding with innovative solutions like the Esophageal Cancer Test and respiratory health advancements*


Exhibit 1: The Five Divisions of ProPhase Labs. Source: Company Presentation

ProPhase Labs began with a focus on developing, manufacturing and marketing innovative pharmaceutical products. In its early years, the company primarily focused on developing drugs for the treatment of common health conditions, such as allergies and respiratory diseases. However, in the late 1990s, the company shifted its focus to over-the-counter (OTC) health and

wellness products, recognizing the growing demand for convenient and accessible health solutions. Of late, the company has acquired many companies from diverse domains, thus expanding its presence in the healthcare industry. Nebula Genomics, ProPhase Diagnostics, Inc., ProPhase BioPharma, Inc., and TK Supplements, among others, are some of the better-known names in the respective industries and have helped ProPhase Labs expand its product portfolio. Nebula Genomics, Inc's acquisition brought a whole array of genome sequencing and related technology into the company's portfolio of offerings. It comprises a comprehensive methodology for analyzing entire genomes, including the genes and chromosomes in DNA whose data can help in identifying, analyzing, and taking preventive measures for breaking the progression of various inherited disorders. Eventually, the data acquired from sequencing can be adapted to develop targeted therapeutics.

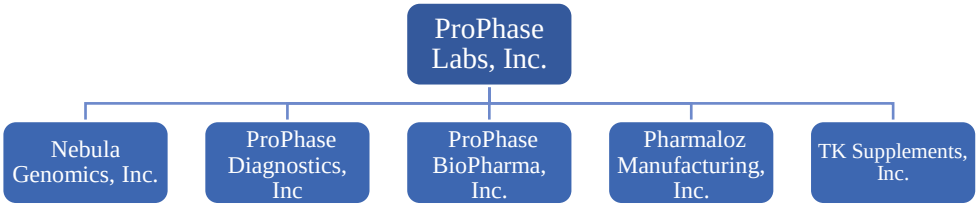


Exhibit 2: Company Structure. Source: Company Filings, Diamond Equity Research

Foraying into biotechnology, the company formed a wholly-owned subsidiary, ProPhase BioPharma, Inc, which focuses on creating and formulating new compounds. The IP of the company includes Equivir and Linebacker, of which it possesses exclusive worldwide development and commercialization rights. Equivir, a dietary supplement available OTC and Equivir G, available by prescription, has shown potential against various serious viral outbreak-associated viruses.

## ProPhase BioPharma – Developing Novel Diagnostic and Therapeutic Products

The wholly-owned subsidiary was created to diversify the company's portfolio, tap into the growing potential of these industries, and leverage existing resources and expertise to develop innovative solutions for various medical conditions, such as viral infections and cancer. This strategic decision to create the biopharma division is expected to foster synergies with other business divisions by leveraging existing resources, expertise, and infrastructure. The company unveiled two licensing agreements for Equivir (dietary supplement) and Equivir G (Rx), both broad-spectrum antivirals and Linebacker LB-1 and LB-2, small-molecule PIM kinase inhibitors which also encompasses the current portfolio of licensed compounds under development. Additionally, the company acquired the exclusive global rights to BE-Smart Esophageal Pre-Cancer diagnostic screening test.

*The biopharma division aims to enhance synergies with other divisions, utilizing existing resources and expertise*

## BE-Smart Esophageal Pre-Cancer Diagnostic Screening Test: Targeting a Large Underserved Market

Seeking to acquire proprietary diagnostic technology that is synergistic with its laboratory diagnostic business, ProPhase Labs Inc. signed an asset purchase agreement to acquire exclusive global rights to BE-Smart Esophageal Pre-Cancer diagnostic screening test and related intellectual property assets. The transaction, which closed in January 2023, had an approximate value of $4.5 million, comprising $3.5 million in cash and $1 million in ProPhase common stock. Moreover, contingent payments amounting to an additional $2 million in stock and royalties are to be executed upon the successful commercialization of the test. The BE-Smart test is a diagnostic screening tool aimed at the detection of esophageal cancer before it develops, particularly for patients with Barrett's Esophagus (BE), a condition where the esophageal lining becomes damaged by acid reflux, leading to thickening and redness which increases the risk of developing esophageal adenocarcinoma.

Esophageal cancer (EC) is marked by high mortality, unfavorable prognosis at diagnosis, and substantial histopathological differences depending on the geographic region. EC ranks as the eighth most prevalent cancer globally and the sixth leading cause of cancer-related fatalities, with a 5-year survival rate below 25%.[1] Early-stage EC typically does not present specific symptoms. The two main histological subtypes, esophageal squamous cell carcinoma (ESCC) and esophageal adenocarcinoma (EAC) make up over 90% of EC cases. A retrospective study examining the epidemiology and outcomes of 23,804 EAC and 13,919 ESCC patients found that the majority were diagnosed at stage IV (classified as distant and metastatic), resulting in the worst outcomes.[1] The 5-year survival rate for distant esophageal cancer is a mere 6%. This late-stage diagnosis leading to poor prognosis and significantly reduced survival rates highlights the urgent need for effective screening strategies to enable early detection of ESCC and EAC, ultimately reducing morbidity and mortality. The BE-Smart Test has the potential to be a standard and effective screening test while drastically improving patient outcomes and survival rates.

The BE-Smart test has been tested on over 200 human samples by mProbe, in collaboration with Dr. Christopher Hartley, Dr. Joe Abdo, and Mayo Clinic. The test has shown more than 99% accuracy in identifying critical differences in cell abnormalities related to esophageal cancer.[2] This accuracy was also confirmed in a separate study using RNA sequencing data. In addition, the test was 100% accurate in detecting invasive cancer in biopsy samples that did not show clear signs of cancer when analyzed using traditional methods.[2] The accuracy of the test was later verified through follow-up testing using other methods, like surgery or endoscopic ultrasound.

## Equivir Line of Products

Equivir is a blend of FDA-approved polyphenols (Myricetin, Hesperidin, and Piperine), designated as Generally Recognized as Safe (GRAS), designed to be taken in capsule form, either as a multivitamin or at the onset of symptoms. It has been hypothesized and is currently being

*Equivir, a blend of FDA-approved, GRAS-designated polyphenols (Myricetin, Hesperidin, Piperine), is a capsule taken as a multivitamin or when symptoms begin*

[1] Then EO, Lopez M, Saleem S, Gayam V, Sunkara T, Culliford A, Gaduputi V. Esophageal Cancer: An Updated Surveillance Epidemiology and End Results Database Analysis. World J Oncol. 2020 Apr

[2] Company Press Release

evaluated in a multi-center trial that the composition is believed to block the entry of viruses, such as influenza, rhinovirus, Ebola, and SARS-COV2, into host cells, thus preventing infection and replication. While Equivir is under assessment as an over-the-counter (OTC) product, Equivir G, a blend of polyphenols akin to Equivir with the addition of Gallic acid, is being investigated as a prescription-based antiviral treatment.


Exhibit 3: Polyphenols Found in Equivir and Equivir G. Source: Company Presentation

## Linebacker Line of Products

ProPhase BioPharma, Inc. (PBIO) has entered into a licensing agreement for the Linebacker portfolio (LB-1 and LB-2), consisting of two patented small molecule PIM kinase inhibitors with substantial potential across various therapeutic areas, including cancer, inflammation-related conditions or symptoms, and memory-related syndromes, diseases, or symptoms such as dementia and Alzheimer's disease. Linebacker is a versatile therapeutic platform aimed at addressing metabolic, neurological, cancerous, and infectious diseases. This platform was inspired by the U.S. Defense Advanced Research Projects Agency (DARPA) Panacea Project, which focuses on providing innovative, multi-target therapeutics for unaddressed physiological needs. Linebacker is a modified polyphenol derived from Myricetin, a widespread plant-based flavonoid known for its potent antioxidant, anticancer, antidiabetic, and anti-inflammatory properties. A growing body of evidence has reported that myricetin supplementation displays therapeutic activities in a lot of nervous system disorders, such as cerebral ischemia, Alzheimer's disease, Parkinson's disease, epilepsy, and glioblastoma.[3] Mechanistic studies have shown that inhibition of oxidative stress, cellular apoptosis, and neuroinflammatory response are common mechanisms for the neuroprotective actions of myricetin.[3]

PIM kinase inhibitors are a class of therapeutic agents that target the PIM kinases, a family of serine/threonine kinases. PIM kinases consist of three isoforms: PIM-1, PIM-2, and PIM-3. These

[3] Li J, Xiang H, Huang C, Lu J. Pharmacological Actions of Myricetin in the Nervous System: A Comprehensive Review of Preclinical Studies in Animals and Cell Models. Front Pharmacol. 2021 Dec 16

kinases are involved in various cellular processes, including cell cycle progression, cell survival, and proliferation. PIM kinases are overexpressed in various types of cancers, such as hematological malignancies and solid tumors, and contribute to cancer cell survival, drug resistance, and tumor progression. Inhibition of PIM kinases has been recognized as a promising therapeutic strategy for the treatment of various cancers. PIM kinase inhibitors act by blocking the activity of PIM kinases, which in turn can lead to the suppression of cancer cell growth & survival and enhancement of the efficacy of other anticancer therapies. These inhibitors have shown potential in preclinical and clinical studies for the treatment of different cancer types and are being actively investigated for their role in cancer therapy.

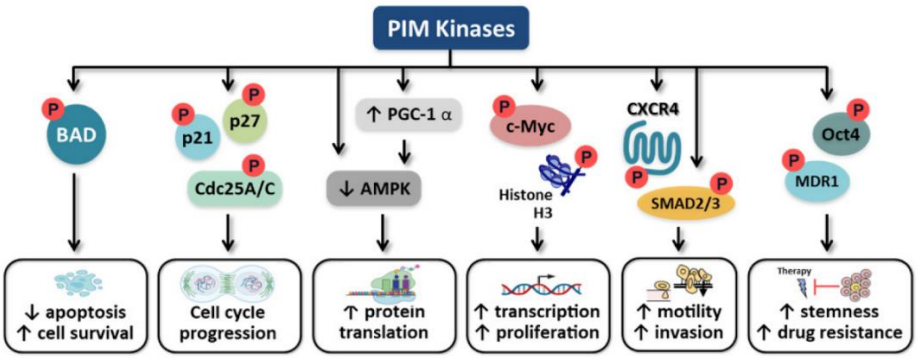


Exhibit 4: PIM Kinases Pathways of Carcinogenesis. Source: Julson JR et al.

## Nebula Genomics

ProPhase Labs' acquisition of Nebula Genomics marks a strategic move towards precision medicine and the integration of genomics in healthcare. This strategic acquisition took place on August 10, 2021, and is a part of ProPhase's goal to empower individuals in managing their health through DNA analysis. Nebula Genomics brings cutting-edge DNA sequencing technology and molecular laboratory prowess to the table. Their advanced whole genomics sequencing (WGS) and testing technologies enable in-depth exploration of human genes and chromosomes. Nebula, a company with significant brand equity, has gained recognition from major media outlets and is HIPAA and GDPR compliant. Successfully selling in over 130 countries, Nebula has achieved 67% global penetration in WGS market. Their robust B2B pipeline contributes to 30% of their whole genome sequencing volume, supplying clinical-grade data to research institutions, CROs, healthcare systems, and pharmaceutical offices. This strong global presence and B2B sales have helped create a digital biobank with over 250 trillion genomic data points. Additionally, Nebula Genomics is poised to significantly enhance its marketing and go-to-market (GTM) strategy by collaborating with best-in-class marketing and advertising partners known for their expertise in scaling digital health products. ProPhase Labs is set on a mission to make personal genome sequencing more accessible and affordable. They aim to provide clients with extensive genetic insights that could transform their lives, from detecting hereditary disorders to forecasting disease risk and even understanding the genetic mutations driving cancer progression.

*Nebula Genomics offers advanced DNA sequencing and molecular lab expertise. Their whole genomics sequencing and testing technologies enable in-depth exploration of human genes and chromosomes*

The company aims to integrate Nebula's whole genome sequencing (WGS) services with ProPhase's clinical diagnostic testing services, including its CLIA-certified laboratories, in an effort to yield synergistic benefits, boost sales and reduce cost overlapping. Additionally, by

utilizing its wide-reaching distribution network that encompasses over 40,000 food, drug, and mass retail stores, ProPhase endeavors to expand the availability of Nebula's genomic sequencing services to a larger audience. Initial retailers include the three largest pharmacy chains and two of the three largest mass retailers in the U.S. The company is also investigating research applications for its genomics testing services, establishing collaborations with universities, and providing them with more accessible, low-cost WGS options.

**Genomic Solutions Providing Crucial Insights**

Nebula Genomics' solution is driven by the innovations of George Church, Ph.D., a Professor of Genetics at Harvard Medical School and Chairman of the company's Scientific Advisory Board. Dr. Church has been at the forefront of developing various DNA sequencing methods, including molecular multiplexing approaches that enable next-generation sequencing (NGS) and nanopore sequencing. Nebula offers a comprehensive solution for whole genome sequencing, providing valuable insights to consumers and creating a robust data set for research purposes.

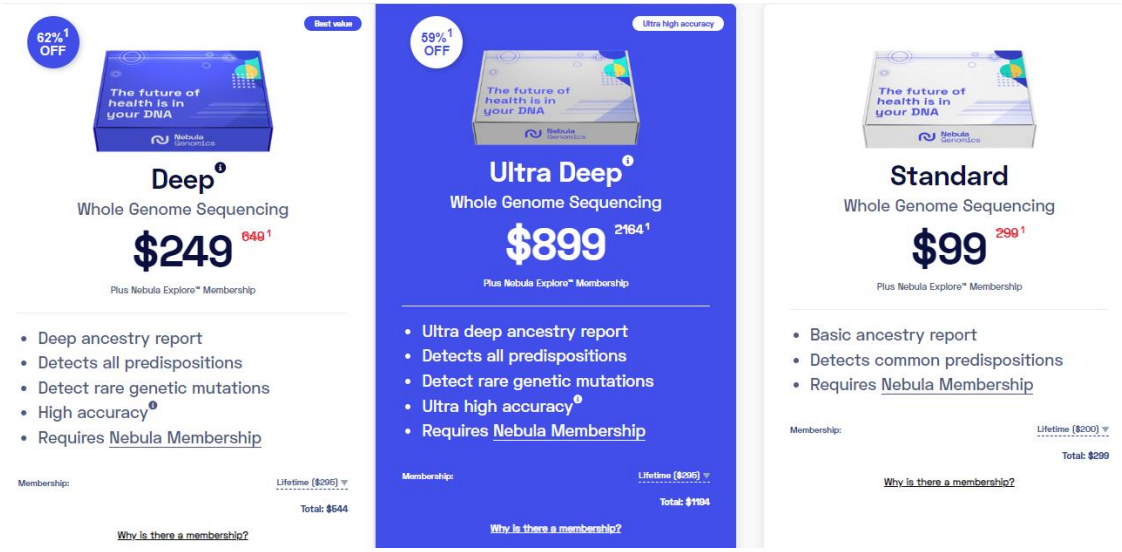


Exhibit 5: Nebula Genomics Solutions. Source: Company Website

- **Affordable Direct-to-consumer WGS:** Nebula Genomics is the first company to bring the cost of whole genome sequencing below $300, making it more accessible to a broader range of consumers. The company's current cost for whole genome sequencing tests is priced at $249.

- **Comprehensive Genetic Data:** The company's whole genome sequencing test decodes approximately 6.4 billion base pairs of the human genome, generating high-quality data that surpasses most competing services. Nebula's tests sequences each position in the whole genome an average of 30 times which is the current gold standard for accuracy in genetic sequencing.

- **Personalized Reports and Exploration Tool:** Nebula Genomics provides over 300 personalized reports based on an individual's genomic profile, accessible via a secure online portal. Additionally, the company offers exploration tools like a gene browser and gene analysis tool, enabling customers to further analyze and understand their genetic data.

**Leveraging Ever-Expanding Nebula Library to Build a Subscription-Based Business Model**

The company's whole genome sequencing test is just one aspect of its offering. Committed to making cutting-edge scientific discoveries easily accessible and comprehensible, Nebula Genomics has introduced the Nebula Research Library - a repository of research publications and genomic discoveries. Updated weekly, this library offers personalized reports based on the latest genetic findings and features over 300 genome-wide association studies (GWAS). The Nebula Research Library provides guidance on understanding the outcomes of genome-wide association studies, such as polygenic scores that represent the impact of identified genetic variants. Nebula Genomics provides customers with up-to-date genomic findings through a subscription model, offering updated reports and new insights based on the latest scientific research and adding these discoveries to the Nebula library for personalized information on genetic traits such as ancestry and health. Furthermore, the subscriber also enjoys unlimited use of genome exploration tools and premium support provided by geneticists.

*Nebula Research Library is a regularly updated repository of research publications and genomic discoveries. It offers personalized reports from over 300 genome-wide association studies (GWAS) and guidance on understanding outcomes like polygenic scores, representing the impact of identified genetic variants*

Although mandatory, the company's subscription cost is more than justifiable as it offers customers a dynamic and constantly evolving understanding of their genetic traits. By ensuring access to the latest research findings, cutting-edge features, and tools, the subscription model empowers individuals to make well-informed decisions based on up-to-date genetic insights. Furthermore, this approach supports ongoing research in the field, driving new discoveries and enhancing the value provided to customers over time.

**Partnership With G42 HealthCare**

Nebula Genomics, Inc., previously announced a collaboration with G42 Healthcare aimed at leveraging each company's strengths to create a synergistic effect on their genomic sequencing capabilities, global healthcare offerings, and market reach. G42 Healthcare is a prominent Abu Dhabi-based health-tech organization utilizing AI and advanced medical technologies with a focus on tapping into the possibilities of customized and preventive care to revolutionize the conventional healthcare framework. The combination of Nebula Genomics' expertise in direct-to-consumer whole genome sequencing and G42 Healthcare's advanced sequencing facilities and AI technologies is expected to result in a more efficient and accurate genetic testing process, giving both companies a possible edge over competitors. Additionally, the collaboration facilitates market expansion for Nebula Genomics into high-growth, underserved markets like the UAE and the Middle East. G42 Healthcare is a global leader in whole genome sequencing, particularly in the UAE, with the goal of sequencing one million residents as mandated by the Emirati Genome Program. They have currently completed sequencing for about 200,000 individuals. This collaboration allows Nebula Genomics to benefit from G42 Healthcare's advantageous pricing on consumables due to their high volume of sequencing, resulting in more efficient and cost-effective processing of specimens. Furthermore, the partnership is expected to enable operational efficiencies and cost savings through the sharing of genomic data insights, best practices, and advanced certifications, which can be passed on to customers accelerating sales growth.

ProPhase Labs has substantially expanded its headquarters in Garden City, New York, and established a new genomics laboratory equipped with top-tier next-generation sequencing technology. This development allows the company to conduct whole genome sequencing and provide an extensive range of genetic testing services for both clinical and research objectives. In

conjunction with building out the state of the art lab, Nebula continues to enhance its partnership with G42 thereby offering nearly unlimited capacity to allow for the rapid growth of both its B2B and DTC businesses. In conclusion, the alliance between Nebula Genomics and G42 Healthcare represents a strategic step towards a future where genomic data plays a crucial role in shaping healthcare decisions. The companies' combined expertise in advanced sequencing technologies and diagnostics positions them to offer personalized and accurate genetic testing services to a wider audience. Additionally, by possessing the most advanced and sophisticated genome sequencing facility in the East Coast region, ProPhase has the potential to establish itself as the premier destination for genetic sample processing collected by all 'virtual' companies across the United States.

## Contract Manufacturing - Pharmaloz Manufacturing, Inc.

ProPhase Labs, Inc's wholly-owned subsidiary, Pharmaloz Manufacturing, Inc. (PMI), serves as a full-service contract manufacturer and private label developer specializing in non-GMO, organic, and natural-based cough drop lozenges, OTC drugs, and dietary supplement products. The company's 60,000 sq. ft. climate-controlled facility on 12 acres operating under FDA 21 CFR 210 & 211 guidelines provides the ability to offer products for diversified needs. The acquisition of new equipment throughout 2023 has significantly increased capacity and profitability leading into 2024. The company is also in the midst of a more massive expansion of its lozenge manufacturing business for 2024 and 2025. Altogether, these expansion initiatives are expected to lead to a 350% increase in capacity for 2024 as compared to 2022 with even more growth projected in 2025. This increased capacity aligns with the growing demand for PMI's products and services, allowing for potential revenue growth.

*Pharmaloz Manufacturing, Inc. (PMI), a wholly-owned subsidiary of ProPhase Labs, is a full-service contract manufacturer and private label developer for non-GMO, organic, and natural-based cough drops, OTC drugs, and dietary supplements*

## TK Supplements – Utilizing Core Competencies

The TK Supplements product line of the company focuses on promoting better health, energy, and sexual vitality. The product line includes two key offerings: Legendz XL, a male sexual enhancement supplement, and Triple Edge XL, an energy and stamina booster.

The company's commitment to using high-quality, research-based ingredients demonstrates a dedication to product efficacy and customer satisfaction. This approach can contribute to a strong brand reputation, which may result in increased sales and customer loyalty. The distribution channels for Legendz XL are promising, with availability in major retailers like Rite Aid, Walgreens, CVS, and Walmart, as well as through e-commerce platforms. The recent expansion of distribution to CVS and Walmart indicates growing market acceptance and potential for increased sales. Triple Edge XL is also gaining retailer acceptance, with a recent restaging strategy at CVS. By reducing the package size from 56ct to 20ct, the retail price became more competitive, resulting in a double-digit increase in consumer sales and a 40% expansion in the number of stores carrying the product. Based on this performance, Triple Edge XL is under review for authorization in other major pharmacies, which may lead to further growth in distribution and sales.

*The global dietary supplements market is expected to grow at a CAGR of 8.40% in the next decade, driven by factors such as rising health awareness, an aging population, and increasing disposable income in emerging markets*

# Appendix

| Income Statement | FY2022 A | FY2023 A | FY2024 E | FY2025 E | FY2026 E |
|---|---|---|---|---|---|
| Net sales | 122,647.0 | 45,236.0 | 87,573.8 | 138,272.2 | 196,639.5 |
| Cost of sales | (51,993.0) | (28,997.0) | (44,488.6) | (70,503.8) | (100,074.6) |
| **Gross profit** | **70,654.0** | **16,239.0** | **43,085.3** | **67,768.4** | **96,564.9** |
| | | | | | |
| **Operating expenses** | | | | | |
| Diagnostic expenses | (12,022.0) | (1,932.0) | (694.3) | (758.4) | (828.5) |
| General and administrative expenses | (34,385.0) | (34,502.0) | (40,588.2) | (50,147.4) | (58,398.0) |
| Research and development expense | (652.0) | (1,418.0) | (2,627.2) | (4,148.2) | (3,932.8) |
| **Income from Operations** | **23,595.0** | **(21,613.0)** | **(824.5)** | **12,714.3** | **33,405.5** |
| Interest income | 153.0 | 78.0 | 71.0 | 242.0 | 144.3 |
| Interest expense | (764.0) | (1,275.0) | (1,112.2) | (1,112.2) | (1,112.2) |
| Change in fair value of investment securities | (76.0) | - | - | - | - |
| Other income | - | 10.0 | - | - | - |
| **Profit before exceptional items, extraordinary items and tax** | **22,908.0** | **(22,800.0)** | **(1,865.6)** | **11,844.1** | **32,437.6** |
| Impairment of secured promissory note receivables | - | - | - | - | - |
| Employee seperation cost | - | - | - | - | - |
| **Profit before tax from continuing operations** | **22,908.0** | **(22,800.0)** | **(1,865.6)** | **11,844.1** | **32,437.6** |
| Income tax (expense) benefit | (4,445.0) | 6,018.0 | - | (2,487.3) | (6,811.9) |
| **Net earnings including noncontrolling interests** | **18,463.0** | **(16,782.0)** | **(1,865.6)** | **9,356.8** | **25,625.7** |

Exhibit 6: Income Statement Snapshot. Source: Diamond Equity Research

## Risk Factors

The success of ProPhase Labs Inc's business is dependent on its ability to navigate a range of risks and uncertainties associated with the healthcare industry. Some of the key risks that could impact the company's financial performance and operations include the following:

- **Product Liability Risks:** ProPhase Labs Inc may face product liability claims if its products cause harm to consumers. While the company has product liability insurance in place, any successful claims against its branded products or third-party products exceeding the insurance coverage could result in increased expenses and impact its reputation with customers negatively. This would ultimately have a material adverse effect on its business, financial position, and top-line numbers.

- **Cybersecurity Risks:** ProPhase Labs, Inc. receives and stores substantial personal information and genetic data of both its customers and employees, which may be vulnerable to cyber threats, such as data breaches, hacking, and ransomware attacks. These threats could compromise the security of its data and systems, leading to financial losses and reputational damage.

- **Technological & Competitive Risks:** The healthcare technology market is highly competitive, and ProPhase Labs Inc must compete with other companies that are also developing and implementing new technologies. ProPhase Labs Inc's success may depend on its ability to develop and implement new technologies, such as digital health platforms and telemedicine, to improve healthcare outcomes and patient care. Any failure to adapt to changing technologies could harm the company's competitiveness and profitability. These challenges could delay the launch of new products or services, increase costs, or impact the quality of its products and services.

- **Acquisition and Integration Risks:** ProPhase Labs Inc pursues acquisitions as a means of growing its business and expanding its market share. It may face risks associated with acquisitions and integrations, such as the failure to integrate acquired businesses, the loss of key personnel, and the failure to achieve expected synergies. This could impact employee morale, productivity, and the ability to achieve expected results.

- **Regulatory Compliance Risks:** Being a pharmaceutical and diagnostic company, ProPhase Labs Inc. is subject to stringent regulations from the FDA and HIPAA. The company must comply with FDA regulations to ensure the safety and effectiveness of its products and to obtain regulatory approval for new products. The company, as a provider of healthcare products and services, must also comply with HIPAA regulations to protect the privacy and security of patient information. Failure to comply with these regulations or obtain necessary approvals can have significant impacts on business operations, the company’s reputation, and the ability to operate in the healthcare industry.

***These risk factors are not comprehensive for full risk factors, please review ProPhase Labs Inc’s relevant SEC filings with risk factors.***

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