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ProPhase Labs' Cancer Therapeutic, Linebacker-1, pre-clinical studies with Dana Farber/Harvard Cancer Institute demonstrate impressive utility and move into next phase of testing

Linebacker fully inhibited lung cancer cell growth and significantly limited colon cancer cell growth in two separate clonogenic models

Development ahead of schedule with mice studies well underway and full toxicology screening soon to follow

Garden City, NY, June 01, 2023 (GLOBE NEWSWIRE) -- ProPhase Labs, Inc. (NASDAQ: PRPH) ("ProPhase"), a next generation biotech, genomics and diagnostics company, today provided an update regarding its progress and development strategy for Linebacker-1 (LB-1), a small molecule, multi-kinase inhibitor that is being developed by the Company's wholly owned subsidiary, ProPhase BioPharma, Inc. ("PPIO"), as a potential unique therapy option for several poor prognosis cancers.

Harvard scientists at the Dana Farber Cancer Institute, in two separate lung and colon cancer clonogenic models, have successfully demonstrated Linebacker's ability to inhibit cancer cell growth, an exciting development for the polyphenol compound.

AH549 lung cancer cells completely lost the ability to proliferate over a 2-week period of treatment, while the HT29 colon cancer cells also saw significant inhibitory results. In the AH549 model, the Linebacker monotherapy showed zero cell proliferation, while the combination therapy showed some proliferation, and the control group showed massive cell proliferation. Also observed were synergies between Linebacker and low doses of frontline chemotherapeutic agents such as Doxorubicin in the colon cancer model. The initial observation is that Linebacker may have enhanced utility as a combination therapy in cancer types that respond well or moderately well to Doxorubicin and should also be considered as a potential monotherapy for myriad cancers that previously showed no response.

With proof-of-principle demonstrated, the ProPhase team is moving forward with in-depth cancer modeling to precisely hone-in on optimal clinical pathways for development.

"We are truly excited about these ongoing preliminary results," said Ted Karkus CEO of ProPhase Labs.

"While the results are still early and only in-vivo, they were better than we had initially expected, especially looking at this as a very viable monotherapy. To date, we have

achieved excellent pre-clinical results for Linebacker as a combination therapy. The fact that the Linebacker monotherapy showed zero cell proliferation in lung cancer, supports our thesis that Linebacker could make an ideal stand-alone therapy option in lung cancer and possibly some other very hard to treat cancers. In addition, the synergies observed between Linebacker and low doses of frontline chemotherapeutic agents, such as Doxorubicin in colon cancer, are exciting given the ever-popular desire to effectively reduce doses of chemotherapies that cause severe side effects. We are anxiously awaiting the results of the in-vivo mouse tumor model testing as that, we believe, combined with our upcoming toxicology studies, should set Linebacker on an accelerated path to clinic.”

“We have a team of experts working with us on the development of Linebacker including cancer immunologist, Dr. Matthew Halpert, formerly of the Baylor College of Medicine, who is working with us as a full-time consultant in collaboration with Harvard scientists at the Dana Farber Cancer Institute, as well as experts at Reprocell and Charles River Laboratories. We are looking forward to Phase I human studies next year at a modest budget of approximately \$3+ million dollars for all planned studies. This is a nominal amount given our greater than \$40 million in net working capital. At which point, with positive results and subject to the necessary regulatory approvals, we believe we will be well situated to explore significant licensing opportunities with major pharma.”

Mr. Karkus concluded, “These positive preliminary results from the Linebacker-1 studies continue to bolster our confidence in our diversification strategy. We are trying to develop Linebacker at minimal risk and high potential reward within an estimated 12 – 18 months. Furthermore, the in vivo results continue to buttress our belief that ProPhase is rapidly evolving into a multi-dimensional, diversified pharmaceutical company with numerous very promising business lines. We are firing on all cylinders as we develop our biotech, genomics and diagnostics initiatives. We look forward to providing additional updates in the coming weeks on some of our other new strategic initiatives, some of which could be quite significant.”

About Linebacker

Linebacker is a modified polyphenol. Polyphenols are substances found in many nuts, vegetables and berries. Linebacker compounds are modified Myricetin, which is a common plant-derived flavonoid. Myricetin exhibits a wide range of activities that include strong antioxidant, anti-cancer, anti-diabetic and anti-inflammatory activities. It displays activities that are related to the central nervous system.

LB-1 is Mono-chlorinated Myricetin with a Chlorine atom substituted for the Hydroxy group at 5' (position 5 on the B-ring). LB-2 is Di-chlorinated Myricetin with Chlorine atoms substituted for the Hydroxy groups at 5' and 7 (position 5 on the B-ring and position 7 on the A-ring).

About ProPhase Labs

ProPhase Labs, Inc. (Nasdaq: PRPH) (“ProPhase”) is a next-generation biotech, genomics and diagnostics company. Our goal is to create a healthier world with bold action and the power of insight. We’re revolutionizing healthcare with industry-leading Whole Genome Sequencing solutions, while developing potential game changer diagnostics and therapeutics in the fight against cancer. This includes a potentially life-saving cancer test focused on early detection of esophageal cancer and potential breakthrough cancer

therapeutics with novel mechanisms of action. Our world-class CLIA labs and cutting-edge diagnostic technology provide wellness solutions for healthcare providers and consumers. We develop, manufacture, and commercialize health and wellness solutions to enable people to live their best lives. We are committed to executional excellence, smart diversification, and a synergistic, omni-channel approach. ProPhase Labs' valuable subsidiaries, their synergies, and significant growth underscore our multi-billion-dollar potential.

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 and projected timelines for our preclinical and clinical programs and commercialization. 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 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.

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