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Aethlon Medical Announces Publication of Preclinical Data Showing That the GNA Affinity Resin in the Hemopurifier® Binds to Extracellular Vesicles in Long COVID patient samples and Decreases Inflammatory microRNAs

Results Support the Further Investigation of the Hemopurifier in Long COVID

SAN DIEGO, Dec. 2, 2025 /PRNewswire/ -- Aethlon Medical, Inc. (Nasdaq: AEMD), a medical therapeutic company focused on developing products to treat cancer and life-threatening infectious diseases, announced today the 20 November 2025 publication of a pre-clinical study entitled "Increased mannosylation of extracellular vesicles in Long COVID plasma provides a potential therapeutic target for Galanthus nivalis agglutinin (GNA) affinity resin" in the pre-print online archive *bioRxiv*: https://www.biorxiv.org/cgi/content/short/2025.11.21.689519v1. This paper has simultaneously been submitted for consideration to a peer-reviewed journal.

Long COVID refers to persistent symptoms following acute SARs-CoV-2 infection (COVID-19). These symptoms - including fatigue, post-exertional malaise, shortness of breath, chest pain, and cognitive difficulties such as "brain fog" - may last for weeks or months after the initial illness. Long COVID is estimated to affect between 44 and 48 million people in the United States alone with a projected economic burden of $2 billion for those with symptoms lasting a year. Despite over $1 billion allocated to Long COVID research funding, no treatment has proven effective.

Extracellular vesicles (EVs), nanoparticles 50-500nm in diameter, released from all cell types and involved in cell-to-cell communication, have been implicated in the pathogenesis of Long COVID. EVs have been found to contain viral particles and other cargo including microRNA which are tiny molecules that regulate the amount of proteins made and have been associated with abnormal blood clotting and inflammation.

Aethlon Medical's Hemopurifier® is an investigational extracorporeal device designed to bind and remove harmful EVs from the blood through a combination of plasma separation, size exclusion and binding to a proprietary affinity resin containing the plant lectin *Galanthus nivalis agglutinin (GNA),* previously found to bind to the sugar mannose.

The Hemopurifier has previously been shown to remove EVs and decrease microRNAs in a patient with severe acute COVID-19 infection. Aethlon Medical collaborated with the

University of California San Francisco Medical Center Long COVID clinic to evaluate plasma samples from participants with Long COVID and control participants who had recovered from COVID-19. Large (100−500 nm) and small (40−200 nm) EVs were isolated from plasma samples to determine ability to bind to GNA (mannose positive) or be removed by the GNA affinity resin, respectively. Plasma of those with Long COVID contained elevated levels of both large and small EVs. Mannose-positive large EVs were significantly increased in Long COVID patient samples comparison to recovered controls. Removal of small EVs by the GNA affinity resin correlated with mannose positive large EVs indicating the same glycan target for removal by the Hemopurifier was present in both populations. NanoString analyses identified seven EV associated miRNAs significantly depleted by GNA affinity resin treatment of plasma. The use of Pathway activity interference software indicated that removal of these microRNAs may be associated with downregulation of inflammatory pathways, including JAK-STAT, and upregulation of tissue repair pathways.

"The data from this ex vivo study is exciting because it demonstrated for the first time that the GNA affinity resin in our device removes extracellular vesicles in Long COVID patient samples and removes microRNAs associated with the JAK-STAT pathway which is a therapeutic target in current Long COVID clinical trials. We plan to further this work by examining if removal of EVs decreases SARSs -CoV-2 viral particles as viral persistence is thought to be an additional important pathogenic mechanism in Long COVD" said Steven P. LaRosa, MD, Chief Medical Officer at Aethlon Medical and senior author on the paper. "While Oncology is our lead clinical indication, this pre-clinical provides additional evidence that EV removal is a target beyond cancer. We see the potential of the Hemopurifier as "a pipeline within a single device" "said James Frakes, Chief Executive Officer at Aethlon.

About Aethlon and the Hemopurifier®

Aethlon Medical is a medical therapeutic company focused on developing the Hemopurifier, a clinical stage immunotherapeutic device which is designed to combat cancer and life-threatening viral infections and for use in organ transplantation. In human studies, the Hemopurifier has demonstrated the removal of life-threatening viruses and in pre-clinical studies, the Hemopurifier has demonstrated the removal of harmful EVs from biological fluids, utilizing its proprietary lectin-based technology. This action has potential applications in cancer, where EVs may promote immune suppression and metastasis, and in life-threatening infectious diseases. The Hemopurifier is a U.S. Food and Drug Administration (FDA) designated Breakthrough Device indicated for the treatment of individuals with advanced or metastatic cancer who are either unresponsive to or intolerant of standard of care therapy, and with cancer types in which EVs have been shown to participate in the development or severity of the disease. The Hemopurifier also holds an FDA Breakthrough Device designation and an open Investigational Device Exemption (IDE) application related to the treatment of life-threatening viruses that are not addressed with approved therapies.

Additional information can be found at www.AethlonMedical.com.

Forward-Looking Statements

This press release contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934 that involve risks and uncertainties. Statements containing words such as "may," "believe," "anticipate," "expect," "intend," "plan," "project," "will," "projections," "estimate," "potentially" or similar expressions constitute forward-looking statements. Such forward-looking

statements are subject to significant risks and uncertainties and actual results may differ materially from the results anticipated in the forward-looking statements. These forward-looking statements are based upon Aethlon's current expectations and involve assumptions that may never materialize or may prove to be incorrect. Factors that may contribute to such differences include, without limitation, the Company's ability to raise additional capital and to successfully complete development of the Hemopurifier; the Company's ability to successfully demonstrate the utility of the Hemopurifier in cancer and infectious diseases and in the transplant setting; the ability of the Hemopurifier to continue to show removal of platelet -derived EVs at a timepoint equivalent to a 4-hour HP treatment; the manuscript described in this release being under review and may be rejected for publication, require substantial revision, or be interpreted differently by the scientific community; the Company's ability to achieve and realize the anticipated benefits from potential milestones; the Company's ability to submit applications to and obtain approval from the additional Ethics Committees in Australia and India, including on the timing expected by the Company; the Company's ability to initiate and continue its planned oncology clinical trials in Australia and India, including on the timing expected by the Company; the Company's ability to manage and successfully complete its clinical trials, if initiated; the Company's ability to successfully manufacture the Hemopurifier in sufficient quantities for its clinical trials, and other potential risks. The foregoing list of risks and uncertainties is illustrative, but is not exhaustive. Additional factors that could cause results to differ materially from those anticipated in forward-looking statements can be found under the caption "Risk Factors" in the Company's Annual Report on Form 10-K for the year ended March 31, 2025, and in the Company's other filings with the Securities and Exchange Commission, including its quarterly Reports on Form 10-Q. All forward-looking statements contained in this press release speak only as of the date on which they were made. Except as may be required by law, the Company does not intend, nor does it undertake any duty, to update this information to reflect future events or circumstances. The preclinical findings described herein are preliminary in nature, have not been peer-reviewed, and may not be replicated in subsequent studies or clinical trials.

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