NEWS RELEASE

Athersys Announces Successful Type B Meeting with the FDA

3/22/2023

Primary Endpoint in Pivotal Acute Ischemic Stroke Trial Will Become mRS Shift Analysis at Day 365

Modifications Reflect Observations from Healios' Recently Completed TREASURE Trial in Japan and the Evolution of Stroke Standard of Care

CLEVELAND--(BUSINESS WIRE)-- Athersys, Inc. (NASDAQ: ATHX), a cell therapy and regenerative medicine company developing MultiStem® (invimestrocel) for critical care indications, announced planned amendments to its MASTERS-2 clinical trial protocol following a Type B meeting with the U.S. Food & Drug Administration (FDA). Held on March 21, 2023, the meeting addressed Athersys' proposed modifications that seek to establish primary and secondary endpoints that it believes best reflect the full potential benefit of MultiStem treatment for patients with acute, moderate-to-severe ischemic stroke as well as the evolving standard of care.

Following a meeting Athersys convened in November 2022 of leading stroke experts, regulatory specialists, and statisticians to discuss potential changes, Athersys proposed four modifications to its ongoing pivotal Phase 3 MASTERS-2 clinical trial protocol, all of which were accepted by the FDA. After finalizing agreement around the statistical approach, Athersys will implement the following amendments to the MASTERS-2 protocol:

1. Athersys will change the timing of the primary endpoint assessed by shift analysis in modified Rankin Scale (mRS) score to Day 365, from Day 90 previously.
2. Athersys will retain shift analysis in mRS score at Day 90 as a key secondary endpoint, along with other revised secondary endpoints.
3. Athersys will remove eligibility caps on concomitant reperfusion therapy (e.g., tPA, MR imaging or tPA+MR imaging) to ensure the final study population is reflective of current standard of care in the population eligible for this therapy.
4. Athersys may elect to have an independent statistician conduct an interim analysis to assess potential sample size adjustment. MASTERS-2 currently plans to enroll 300 patients and enrollment, as previously communicated, is >50% complete.

"The MASTERS-2 clinical trial protocol changes agreed to by the FDA reflect what we have learned from the completed MultiStem Phase 2 MASTERS-1 trial and the TREASURE clinical trial run in Japan by our partner Healios, as well as the significant evolution of standard of care in treating acute ischemic stroke. We appreciate the FDA's guidance, which we believe ultimately will benefit stroke patients worldwide," stated Dan Camardo, Chief Executive Officer of Athersys. "We view the outcome of our meeting as the best-case scenario. Although changing the primary endpoint to Day 365 extends the duration of MASTERS-2, we believe our accepted modifications enable accelerated patient enrollment and provide a higher conviction for demonstrating treatment potential."

Athersys was previously granted Regenerative Medicine Advanced Therapy (RMAT), Fast Track designation and Special Protocol Assessment (SPA) agreement for the use of MultiStem in the treatment of ischemic stroke. These designations enable sponsors to work closely with the FDA and receive guidance on expediting advancement of designated programs.

"The proposed changes we submitted to the FDA allow us to thoroughly evaluate the mechanisms through which we hypothesize MultiStem cell treatment can provide benefit to patients suffering an acute ischemic stroke," commented Dr. Robert W. Mays, Executive Vice President of Regenerative Medicine for Athersys. "This outcome more accurately reflects our belief that MultiStem's treatment effect extends beyond Day 90 and is better reflected with a Day 365 assessment of functional recovery."

Additional information regarding the MASTERS-2 clinical trial is available **here**.

About MultiStem®

MultiStem (invimestrocel) cell therapy is a patented regenerative medicine product in clinical development that has shown the ability to promote tissue repair and healing in a variety of ways, such as through the production of therapeutic factors in response to signals of inflammation and tissue damage. MultiStem therapy's potential for multidimensional therapeutic impact distinguishes it from traditional biopharmaceutical therapies focused on a

single mechanism of benefit. The therapy represents a unique "off-the-shelf" stem cell product that can be manufactured in a scalable manner, may be stored for years in frozen form, and is administered without tissue matching or the need for immune suppression. Based upon its efficacy profile, its novel mechanisms of action, and a favorable and consistent tolerability demonstrated in clinical studies, we believe that MultiStem therapy could provide a meaningful benefit to patients, including those suffering from serious diseases and conditions with unmet medical need.

About Athersys

Athersys is a biotechnology company engaged in the discovery and development of therapeutic product candidates designed to extend and enhance the quality of human life. The Company is developing its MultiStem® cell therapy product, a patented, adult-derived “off-the-shelf” stem cell product, initially for disease indications in the neurological, inflammatory and immune, and other critical care indications and has several ongoing clinical trials evaluating this potential regenerative medicine product. Athersys has forged strategic partnerships and a broad network of collaborations to further advance MultiStem cell therapy toward commercialization. Investors and others should note that we may post information about the Company on our website at **www.athersys.com** and/or on our accounts on Twitter, Facebook, LinkedIn or other social media platforms. It is possible that the postings could include information deemed to be material information. Therefore, we encourage investors, the media and others interested in the Company to review the information we post on our website at **www.athersys.com** and on our social media accounts. Follow Athersys on Twitter at **www.twitter.com/athersys**. Information that we may post about the Company on our website and/or on our accounts on Twitter, Facebook, LinkedIn or other social media platforms may contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 that involve risks and uncertainties. You should not place undue reliance on forward-looking statements contained on our website and/or on our accounts on Twitter, Facebook, LinkedIn or other social media platforms, and we undertake no obligation to publicly update forward-looking statements, whether as a result of new information, future events or otherwise.

Forward-Looking Statements

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 that involve risks and uncertainties. These forward-looking statements relate to, among other things, the expected timetable for development of our product candidates, our growth strategy, and our future financial performance, including our operations, economic performance, financial condition, prospects, and other future events. We have attempted to identify forward-looking statements by using such words as “anticipates,” “believes,” “can,” “continue,” “could,” “estimates,” “expects,” “intends,” “may,” “plans,” “potential,” “should,” “suggest,” “will,” or other similar expressions. These forward-looking statements are only predictions and are largely based on

our current expectations. In addition, a number of known and unknown risks, uncertainties, and other factors could affect the accuracy of these statements. Some of the more significant known risks that we face are the risk that we will be unable to raise capital to fund our operations in the near term and long term, including our ability to obtain funding through public or private equity offerings, debt financings, collaborations and licensing arrangements or other sources, on terms acceptable to us or at all, and to continue as a going concern and our ability to successfully resolve the payment issues with our primary contract manufacturer and gain access to our clinical product. The following risks and uncertainties may cause our actual results, levels of activity, performance, or achievements to differ materially from any future results, levels of activity, performance, or achievements expressed or implied by these forward-looking statements: our ability to raise capital to fund our operations in the near term and long term, including our ability to obtain funding through public or private equity offerings, debt financings, collaborations and licensing arrangements or other sources, on terms acceptable to us or at all, and to continue as a going concern; our ability to successfully license our SIFU technology; our ability to successfully resolve the payment issues with our primary contract manufacturer and gain access to our clinical product our collaborators' ability and willingness to continue to fulfill their obligations under the terms of our collaboration agreements and generate sales related to our technologies; the possibility of unfavorable results from ongoing and additional clinical trials involving MultiStem; the risk that positive results in a clinical trial may not be replicated in subsequent or confirmatory trials or success in an early stage clinical trial may not be predictive of results in later stage or large scale clinical trials; our ability to regain compliance with the Nasdaq continued listing requirements; the timing and nature of results from MultiStem clinical trials, including the MASTERS-2 Phase 3 clinical trial evaluating the administration of MultiStem for the treatment of ischemic stroke; our ability to meet milestones and earn royalties under our collaboration agreements, including the success of our collaboration with Healios; the success of our MACOVIA clinical trial evaluating the administration of MultiStem for the treatment of ARDS induced by COVID-19 and other pathogens, and the MATRICS-1 clinical trial being conducted with The University of Texas Health Science Center at Houston evaluating the treatment of patients with serious traumatic injuries; the availability of product sufficient to meet our clinical needs and potential commercial demand following any approval; the possibility of delays in, adverse results of, and excessive costs of the development process; our ability to successfully initiate and complete clinical trials of our product candidates; the possibility of delays, work stoppages or interruptions in manufacturing by third parties or us, such as due to material supply constraints, contamination, operational restrictions due to COVID-19 or other public health emergencies, labor constraints, regulatory issues or other factors that could negatively impact our trials and the trials of our collaborators; uncertainty regarding market acceptance of our product candidates and our ability to generate revenues, including MultiStem cell therapy for neurological, inflammatory and immune, cardiovascular and other critical care indications; changes in external market factors; changes in our industry's overall performance; changes in our business strategy; our ability to protect and defend our intellectual property and related business operations, including the successful prosecution of our patent applications and enforcement of our patent rights, and operate our business in an environment of rapid technology and intellectual property development; our possible inability to realize commercially valuable discoveries in our

collaborations with pharmaceutical and other biotechnology companies; the success of our efforts to enter into new strategic partnerships and advance our programs; our possible inability to execute our strategy due to changes in our industry or the economy generally; changes in productivity and reliability of suppliers; the success of our competitors and the emergence of new competitors; and the risks mentioned elsewhere in our Annual Report on Form 10-K for the year ended December 31, 2021 under Item 1A, “Risk Factors” and our other lings with the SEC. You should not place undue reliance on forward-looking statements, and we undertake no obligation to publicly update forward-looking statements, whether as a result of new information, future events or otherwise.

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