Astrocyte Pharmaceuticals 2022 Q4 Investor Update

(Q3 2022 Financials)

To all Astrocyte Pharmaceuticals Shareholders,

Last fall we announced the initiation of a Pre-Series B convertible note bridge round of $2M. We have had an enthusiastic response, closed on $3.2M, and now have commitments that exceed the initial financing cap of $5M. To close on these additional investments, the Company and Board have approved expanding the maximum size of the round, and next week we will initiate the corresponding shareholder consent for that approval. These funds are important for Astrocyte to accelerate the planning for the Phase 2 clinical study.

In Q4 2022, we successfully completed both parts of our Phase 1A Single Ascending Dose (SAD) safety study in Hungary. In total, 52 healthy volunteers participated in the study (42 received AST-004 and 10 received placebo). As expected from the preclinical data, AST-004 was safe and well tolerated in the subjects, with no drug-related safety signals or any significant adverse events. The highest dose tested (100 mg AST-004) reached plasma concentrations 2-3x that of our monkey study "High Dose", enabling us to have a broad concentration range in which to explore efficacy in the future Phase 2.

An important secondary goal of the study was to determine AST-004 pharmacokinetics (PK) in humans. The half-life of AST-004 was determined to be 1.3 hours, which is shorter than our original projections, but very consistent with what was observed in monkeys. AST-004 has linear PK over the dose range, so it continues to have "well-behaved" pharmaceutical properties. In Part 2 of the study, we were able to 'spot check' CSF concentrations and at 1 hour post-dose, the 100 mg dose AST-004 had a CSF concentration of 28 ng/ml, which is higher than that associated with efficacy at the monkey mid-dose. A full CSF concentration profile will be determined in the upcoming AST-004-1-03 Study.

With actual data on human PK, we can now refine the dosing regimens that will be taken into Phase 2 study. Analyzing the human PK data and our preclinical dosing leads us to project using a six-hour IV infusion for treating stroke and moderate to severe TBI in the emergency room. We are now initiating a Phase 1B study that confirms that a six-hour extended IV infusion of AST-004 is also safe and well tolerated, as well as the full CSF profile. We expect this extended infusion study to start in Q2 2023 in Europe.

To lead the design of our Phase 2 study, I am pleased to announce that Dr. Kevin Sheth has agreed to formally become Astrocyte's Chief Medical Advisor. Dr. Sheth previously joined Astrocyte's Clinical Advisory Board in 2019, and is (and continues to be) the founding Chief of the Division of Neurocritical Care & Emergency Neurology and Director of the Yale Center of Brain & Mind Health. Kevin has extensive experience in conducting stroke and TBI trials, having served as PI or co-PI for 8 multicenter clinical trials in stroke including the Phase 2 and 3 studies by Biogen and Remedy Pharmaceuticals on CIRARA. Kevin has been working closely with the Astrocyte team and our Clinical Advisors to refine the Phase 2 design.

Lastly, the standard quarterly financial statements for Q3 2022 are available to you at this link for your review and records. As always, please feel free to contact me with any questions.

Sincerely,

William S. Korinek
CEO, Astrocyte Pharmaceuticals Inc.