Clearside Biomedical's Positive ODYSSEY Wet AMD Data and Suprachoroidal Injection Platform Highlighted in Presentations at Multiple Events During AAO 2024 Annual Meeting

October 22, 2024

- CLS-AX Phase 3 Ready Based on Positive Phase 2b Topline Data in Wet AMD -

- Differentiated Profile for CLS-AX Targeting Flexible Dosing Similar to a Biologic with the Potential Extended Duration of a Tyrosine Kinase Inhibitor (TKI) -

- Versatility of SCS Microinjector® Featured in Multiple Presentations -

ALPHARETTA, Ga., Oct. 22, 2024 (GLOBE NEWSWIRE) -- Clearside Biomedical, Inc. (Nasdaq: CLSD), a biopharmaceutical company revolutionizing the delivery of therapies to the back of the eye through the suprachoroidal space (SCS®), announced today that multiple presentations were delivered at the 2024 Annual Meeting of the American Academy of Ophthalmology (AAO) and preceding events that highlighted encouraging safety and efficacy data from clinical trials of therapies utilizing Clearside's SCS Microinjector ® to deliver drugs into the suprachoroidal space to treat a variety of retinal diseases.

"During this year's AAO meeting, physicians indicated significant interest in the target product profile for CLS-AX, which we believe could provide a differentiated option in wet AMD with flexible dosing and extended duration," said Victor Chong, M.D., MBA, Chief Medical Officer of Clearside. "The positive topline data from our recent ODYSSEY trial was presented in several sessions and was well received. CLS-AX demonstrated extended duration and stable vision and anatomic measures throughout the trial in a patient population with active disease confirmed by an independent reading center. ODYSSEY supports the ability to administer multiple doses of CLS-AX from 12 weeks up to 36 weeks with a well-tolerated safety profile. These results strongly support advancing our CLS-AX wet AMD program into Phase 3 development. Our ultimate objective for CLS-AX is to maintain visual acuity and reduce the number of injections, therefore reducing the number of office visits, which can benefit patients, caregivers and payors with improved outcomes, while also fitting into existing physician practice."

Glenn Yiu, M.D., Ph.D., Professor of Ophthalmology, University of California, Davis, highlighted, "Suprachoroidal delivery is a proven way to deliver medication for sight-threatening retinal disease directly to the back of the eye. Clearside's SCS Microinjector is being used to deliver a wide variety of drug candidates into the suprachoroidal space, providing targeted delivery to potentially improve duration, efficacy and safety with the compartmentalization of medication to reduce toxic effects on non-diseased cells. In the recent ODYSSEY Phase 2b trial, there was an 84% reduction in the frequency of injections after the initial dose of CLS-AX, with approximately 90% of CLS-AX participants not requiring any additional treatment up to 4 months, 81% up to 5 months and 67% up to 6 months. This encouraging data is consistent with recent real-world outcomes on the use and durability of Clearside's first approved suprachoroidal treatment, XIPERE ® (triamcinolone acetonide injectable suspension) for uveitic macular edema, in which more than 75% of eyes did not require retreatment for 6 months after a single dose of XIPERE."

Sessions on Suprachoroidal Drug Delivery Utilizing Clearside's SCS Microinjector:

AAO: Suprachoroidal Drug Delivery in the Real World
Presented by: Glenn Yiu, M.D., Ph.D.

AAO: A Phase 2 Dose-Escalation Study Evaluating Suprachoroidal Delivery of Investigational ABBV-RGX-314 Gene Therapy for DR (abstract 30078795)
Presented by: Arshad Khanani M.D., M.A.

Sessions on TKIs Including CLS-AX in Retinal Diseases:

AAO: Tyrosine Kinase Inhibitors and Retinal Diseases: Clinical Studies
Presented by: Rishi Singh, M.D.

Eyecelerator: AAO 2024 Retina Showcase – Clearside Biomedical
Presented by: Victor Chong, M.D., MBA

Innovate Retina: Tyrosine Kinase Inhibitors: A Suprachoroidal Perspective
Presented by: Roger Goldberg, M.D., MBA

Innovate Retina: Tyrosine Kinase (TKIs) - Directed Treatments: The Promise of New Targets
Presented by: Arshad Khanani M.D., M.A.

About Clearside's Suprachoroidal Space (SCS ®) Injection Platform and SCS Microinjector®

Clearside's patent protected, proprietary suprachoroidal space (SCS ®) injection treatment approach offers unprecedented access to the back of the eye, where sight-threatening disease often occurs. The Company's unique platform is inherently flexible and intended to work with established and new formulations of medications. Clearside's patented SCS Microinjector ® can deliver a wide variety of drug candidates into the suprachoroidal space, providing targeted delivery to potentially improve efficacy and compartmentalization of medication to reduce or eliminate toxic effects on non-diseased cells. The SCS Microinjector system comprises a syringe, a custom-designed hub, and two 30-gauge hollow microneedles of varying lengths, each

approximately one millimeter, optimizing insertion and suprachoroidal administration of drugs.

About ODYSSEY Phase 2b Clinical Trial

ODYSSEY was a randomized, double-masked, parallel-group, active-controlled, multicenter, 36-week, Phase 2b clinical trial in participants with wet AMD previously treated with intravitreal anti-vascular endothelial growth factor (VEGF) standard of care therapy. A total of 60 participants were treated for 36 weeks and randomized to either CLS-AX (1 mg) or aflibercept (2 mg) with a 2:1 randomization schedule (40 participants in CLS-AX arm and 20 participants in aflibercept arm). CLS-AX was administered via suprachoroidal injection using Clearside's SCS Microinjector, and aflibercept was administered via intravitreal injection. Participants in the trial were determined to have active disease with a median duration of wet AMD diagnosis of 9.9 months.

The ODYSSEY trial achieved its objectives, including primary outcomes in mean change from baseline in best corrected visual acuity and safety and tolerability of CLS-AX, and secondary outcomes in visual function and ocular anatomy, the need for supplemental treatment, and treatment burden as measured by total injections over the trial duration. CLS-AX demonstrated compelling intervention-free rates with 100% of CLS-AX participants not requiring any additional treatment up to 3 months, 90% up to 4 months, 81% up to 5 months, and 67% up to 6 months after the initial CLS-AX dose. In the CLS-AX group, the injection frequency was reduced by approximately 84% compared to the average monthly injections in the 24 weeks prior to screening.

About CLS-AX (axitinib injectable suspension)

Clearside is developing CLS-AX as a longer-acting therapy for the treatment of retinal diseases. CLS-AX (axitinib injectable suspension) is a proprietary suspension of axitinib for suprachoroidal injection. Axitinib is a tyrosine kinase inhibitor (TKI), currently approved as an oral tablet formulation to treat advanced renal cell carcinoma, that achieves pan-VEGF blockade, directly inhibiting VEGF receptors-1, -2, and -3 with high potency and specificity. Clearside believes this broad VEGF blockade may have efficacy advantages over existing retinal therapies by acting at a different level of the angiogenesis cascade and may benefit patients who sub-optimally respond to current, more narrowly focused anti-VEGF therapies. Suprachoroidal injection of this proprietary suspension of axitinib has demonstrated meaningful potential in Phase 1/2a and Phase 2b wet AMD clinical trials in which CLS-AX was well tolerated and demonstrated a positive safety profile. With suprachoroidal administration of axitinib, there is the potential to achieve prolonged duration and targeted delivery to affected tissue layers by compartmentalizing axitinib behind the retina, thereby limiting drug exposure to the front of the eye.

About Age-Related Macular Degeneration (AMD)

Age-related macular degeneration causes a progressive loss of central vision and is the most common cause of legal blindness in individuals over age 55. Neovascular AMD (wet AMD) is generally caused by abnormal blood vessels that leak fluid or blood into the macula, the part of the retina responsible for central vision, and accounts for the majority of vision loss in patients with this disorder. Approximately 11 million patients in the U.S. are living with AMD[1], and about 10% of all patients with AMD have the wet form[2]. Current treatments require life-long, frequent injections to maintain efficacy. This treatment regimen tends to cause a treatment burden for patients resulting in reduced compliance and under-treatment leading to potentially limited outcomes. In the U.S., the total economic impact of late-stage AMD is estimated to be approximately $49 billion, with the majority of costs attributed to lower productivity related to job loss or job reduction due to the condition[3].

Sources

[1] Pennington, Katie L and DeAngelis, Margaret M, Eye and Vision, Epidemiology of age-related macular degeneration (AMD): associations with cardiovascular disease phenotypes and lipid factors, Dec 22, 2016.

[2] Prall, F Ryan and Ciulla, Thomas A, Medscape: Exudative (Wet) Age-Related Macular Degeneration (AMD), June 16, 2022.

[3] Retina International, The Socio-economic Impact of Age-related Macular Degeneration (AMD) in Bulgaria, Germany, and USA, Oct 12, 2022.

About XIPERE® (triamcinolone acetonide injectable suspension) for suprachoroidal use

XIPERE® (triamcinolone acetonide injectable suspension) for suprachoroidal use is a proprietary suspension of the corticosteroid triamcinolone acetonide for administration to the suprachoroidal space for the treatment of macular edema associated with uveitis. XIPERE is approved by the U.S. Food and Drug Administration and is commercially available in the United States. Bausch + Lomb, a leading global eye health company dedicated to helping people see better to live better, has the exclusive license for the commercialization and development of XIPERE in the U.S. and Canada. Arctic Vision, a specialty ophthalmology company based in China, has the exclusive license for the commercialization and development of XIPERE, which they refer to as Arcatus®, in Greater China, South Korea, Australia, New Zealand, India and the ASEAN Countries. A link to the full prescribing information is available at https://www.xipere.com/hcp/#isi.

About Clearside Biomedical, Inc.

Clearside Biomedical, Inc. is a biopharmaceutical company revolutionizing the delivery of therapies to the back of the eye through the suprachoroidal space (SCS®) to improve patient outcomes. Clearside's SCS injection platform, utilizing the Company's patented SCS Microinjector ®, enables an in-office, repeatable, non-surgical procedure for the targeted and compartmentalized delivery of a wide variety of therapies to the macula, retina, or choroid to potentially preserve and improve vision in patients with sight-threatening eye diseases. Clearside is developing its own pipeline of small molecule product candidates for administration via its SCS Microinjector. The Company's lead program, CLS-AX (axitinib injectable suspension), for the treatment of neovascular age-related macular degeneration (wet AMD), recently completed a Phase 2b clinical trial, and planning for a Phase 3 program is underway. Clearside developed and gained approval for its first product, XIPERE® (triamcinolone acetonide injectable suspension) for suprachoroidal use, which is available in the U.S. through a commercial partner. Clearside also strategically partners its SCS injection platform with companies utilizing other ophthalmic therapeutic innovations. For more information, please visit clearsidebio.com or follow us on LinkedIn.

Cautionary Note Regarding Forward-Looking Statements

Any statements contained in this press release that do not describe historical facts may constitute forward-looking statements as that term is defined in the Private Securities Litigation Reform Act of 1995. These statements may be identified by words such as "believe", "expect", "may", "plan", "potential", "will", and similar expressions, and are based on Clearside's current beliefs and expectations. These forward-looking statements include

statements regarding the clinical development of CLS-AX (including any future clinical trials), and the potential benefits of CLS-AX, Clearside's suprachoroidal delivery technology and Clearside's SCS Microinjector ®. These statements involve risks and uncertainties that could cause actual results to differ materially from those reflected in such statements. Risks and uncertainties that may cause actual results to differ materially include uncertainties inherent in the conduct of clinical trials, Clearside's reliance on third parties over which it may not always have full control and other risks and uncertainties that are described in Clearside's Annual Report on Form 10-K for the year ended December 31, 2023, filed with the U.S. Securities and Exchange Commission (SEC) on March 12, 2024, Clearside's Quarterly Report on Form 10-Q for the quarter ended June 30, 2024, filed with the SEC on August 12, 2024, and Clearside's other periodic reports filed with the SEC. Any forward-looking statements speak only as of the date of this press release and are based on information available to Clearside as of the date of this release, and Clearside assumes no obligation to, and does not intend to, update any forward-looking statements, whether as a result of new information, future events or otherwise.

Source: Clearside Biomedical, Inc.

Investor and Media Contacts: Jenny Kobin Remy Bernarda ir@clearsidebio.com