Kyverna Therapeutics Presents Patient Data Reinforcing Potential of KYV-101 for Treatment of Neuroinflammatory Diseases in Symposium at ECTRIMS 2024

September 18, 2024

Company symposium to highlight case reports from 11 patients with stiff-person syndrome, myasthenia gravis and multiple sclerosis reinforcing KYV-101's initial efficacy and safety profile and broad potential in B cell-driven neuroinflammatory diseases

Key biomarkers indicate potential for KYV-101 to durably modify neuroinflammatory diseases with immune system reset

Kyverna to present posters on design and methods for company-sponsored clinical trials in neuroinflammatory diseases

EMERYVILLE, Calif., Sept. 18, 2024 /PRNewswire/ -- Kyverna Therapeutics, Inc. (Kyverna), a patient-centered, clinical-stage biopharmaceutical company focused on developing cell therapies for patients suffering from autoimmune diseases, today announced the presentation of three posters outlining the design and methods of Kyverna's clinical trials evaluating KYV-101 in neuroinflammatory diseases at the 40th Congress of the European Committee for Treatment and Research in Multiple Sclerosis (ECTRIMS) in Copenhagen, Denmark, taking place September 18-20, 2024. Also today, Kyverna shared case reports from its ongoing clinical trials in stiff-person syndrome, myasthenia gravis and multiple sclerosis in a company-sponsored symposium. These case reports reinforce emerging clinical data from KYV-101, with individual patient vignettes continuing to demonstrate disease modification across trials and durability in some patients extending beyond one year and a well-tolerated safety profile.

"The new data contribute to redefine treatment efficacy and support the safety profile of KYV-101," said Ralf Gold, M.D., professor of Medicine, chair of Neurology at Ruhr University Bochum, St. Josef Hospital, in Germany, and one of the presenters at the company's symposium. "By rapidly adding new data across a wide spectrum of severe neuroinflammatory diseases, we can hope to accelerate the development of potentially life-changing therapies."

"We are very proud to lead the field in understanding the impact of deep B-cell reset towards a potential paradigm shift in the treatment of neuroinflammatory diseases," said Warner Biddle, Chief Executive Officer at Kyverna. "As we continue to build on KYV-101's leading position in stiff-person syndrome and myasthenia gravis with these results, we are additionally excited by promising case reports in multiple sclerosis, which represents a significant population with high unmet need. Altogether, these results continue to reinforce the broad potential of KYV-101 to durably modify debilitating symptoms of severe neuroinflammatory diseases, and generate insights that will allow us to bring transformative CAR T treatments to even more patients."

Across numerous company- and investigator-sponsored studies, KYV-101 is currently being evaluated in a range of B cell-driven autoimmune diseases. Kyverna is currently conducting three ongoing company-sponsored Phase 2 trials in neuroinflammatory diseases: KYSA-6 in myasthenia gravis, KYSA-7 in multiple sclerosis and KYSA-8 in stiff-person syndrome.

At a company symposium titled, "KYV-101 Unlocking the Potential of CAR T-cell Therapy in Neuroinflammatory Diseases," to be held at 5:15 pm CET on September 18, 2024, Kyverna and investigators will highlight case report experience from 11 patients from these studies:

- In stiff-person syndrome, two patients treated with KYV-101 have demonstrated improved mobility and/or walking speed and reduced autoantibody titers, including one patient at greater than one year post-infusion. A third patient demonstrated reduced autoantibody titers but does not yet have mobility scores available.
- In myasthenia gravis, three patients treated with KYV-101 have shown reduced pathogenic anti-AChR antibody titers and sustained disease control, including two patients at more than one year post-infusion and all three at greater than 8 months post-infusion.
- In multiple sclerosis, five patients treated with KYV-101 who failed prior anti-CD20 medications have shown a significant and unprecedented average reduction in oligoclonal bands in the

central nervous system (CNS), a potential surrogate biomarker for reduced disease progression.
- Across 41 autoimmune disease patients treated to date with KYV-101, no severe CRS or ICANS has been observed.

In addition, the Company will present three posters featuring additional detail on the design and methods used in Kyverna's sponsored clinical trials of KYV-101:

- "Activity and manufacturing of KYV-101 anti-CD19 chimeric antigen receptor T cells derived from patients with neurologic autoimmune diseases"
- "Design of KYSA-6, a phase 2, open-label, multicenter study of KYV-101, a novel fully human anti-CD19 chimeric antigen receptor T-cell therapy in refractory generalized myasthenia gravis"
- "Design of KYSA-7, a phase 2, open-label, randomized, multicenter study of KYV-101, an autologous fully human anti-CD19 chimeric antigen receptor (CAR) T-cell therapy, in treatment refractory primary and secondary progressive multiple sclerosis"

The posters presented at ECTRIMS will be available on the publications page of Kyverna's website, and highlights from the case studies presented at Kyverna's symposium will be included in the company's updated corporate presentation, which will be available on the investor relations section of Kyverna's website.

About Stiff-Person Syndrome (SPS)

SPS is a rare, progressive neurological autoimmune disorder causing debilitating muscle stiffness in the torso, arms, and legs, impacting the ability to walk or move. Patients typically present with muscle spasms and stiffness, resulting in difficulty turning and bending. When stiffness is severe, the patients' posture resembles a statue. Muscle spasms and stiffness can be precipitated by unexpected stimuli, including sounds, like a phone ring or a siren, sudden touches or conditions triggering anxiety and emotional upset which, when severe, are misdiagnosed as a primary anxiety disorder[1].

About Myasthenia Gravis (MG)

Myasthenia gravis is an autoimmune disorder associated with muscle weakness in tissues throughout the body, potentially manifesting in partial paralysis of eye movements, problems in chewing and swallowing, respiratory problems, speech difficulties and weakness in skeletal muscles. MG patients develop antibodies that lead to an immunological attack on critical signaling proteins at the junction between nerve and muscle cells, thereby inhibiting the ability of nerves to communicate properly with muscles. The symptoms of the disease can be transient and in the early stages of the disease can remit spontaneously. However, as the disease progresses, symptom-free periods become less frequent and disease exacerbations can last for months. Disease symptoms reach their maximum levels within two to three years in approximately 80% of patients. Up to 20% of MG patients experience respiratory crisis at least once in their lives[2].

About Multiple sclerosis (MS)

Multiple sclerosis is a chronic neurodegenerative autoimmune disease affecting over 2.8 million individuals worldwide[3]. It affects more frequently women, people of Northern European descent, and is also associated with certain environmental and genetic factors. Patients with MS can experience a range of symptoms including blurred vision, slurred speech, tremors, numbness, extreme fatigue, problems with memory and concentration, and, in severe cases, the inability to walk or stand. Current disease-modifying treatments for MS aim to reduce the frequency of disease relapses and delay progression of disability, but the disease remains a chronic condition that will progressively worsen for most patients.

About KYV-101

KYV-101 is an autologous, fully human CD19 CAR T-cell product candidate for use in B cell-driven autoimmune diseases. The CAR in KYV-101 was designed by the National Institutes of Health (NIH) to improve tolerability and tested in a 20-patient Phase 1 trial in oncology. Results were published by the NIH in Nature Medicine[4]. KYV-101 is currently being evaluated in sponsored, open-label, Phase 1/2 and Phase 2 trials in the United States and Germany across two broad areas of autoimmune diseases, rheumatologic and neuroinflammatory, as well as in investigator-initiated trials for multiple indications in multiple geographies. The clinical experience to date with KYV-101 in both oncological and autoimmune diseases highlight the differentiated properties of KYV-101 and the potential to treat autoimmune patients.

About Kyverna Therapeutics

Kyverna Therapeutics, Inc. (Nasdaq: KYTX) is a patient-centered, clinical-stage biopharmaceutical company focused on developing cell therapies for patients suffering from autoimmune diseases. Our lead CAR T-cell therapy candidate, KYV-101 is advancing through clinical development with sponsored clinical trials across two broad areas of autoimmune disease: rheumatology and neurology, including Phase 2 trials for stiff-person syndrome, multiple sclerosis and myasthenia gravis, a Phase 1/2 trial for systemic sclerosis, and two ongoing multi-center, open-label Phase 1/2 trials in the United States and Germany for patients with lupus nephritis. Kyverna's pipeline includes next-generation CAR T-cell therapies in both autologous and allogeneic formats with properties intended to be well suited for use in B cell-driven autoimmune diseases.

Forward-Looking Statements

Statements in this press release about future expectations, plans and prospects, as well as any other statements regarding matters that are not historical facts, may constitute "forward-looking statements." The words, without limitation, "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "project," "should," "target," "will," "would" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these or similar identifying words. Forward-looking statements in this press release include, without limitation, those related to: the potential impact of the clinical outcomes from the ongoing clinical programs; the potential impact of the new data on the treatment efficacy and safety profile of KYV-101; the potential that the results of the ongoing trials could drastically

change the treatment landscape for the targeted autoimmune diseases; Kyverna's goals to develop certain paradigm-shifting treatment options; the potential for KYV-101 to provide durable, immunosuppressant-free remission for autoimmune disease patients; Kyverna's beliefs about the differentiated properties of KYV-101; and Kyverna's clinical trials and named-patient activities. Actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors, including: uncertainties related to market conditions, and other factors discussed in the "Risk Factors" section of Kyverna's most recent Annual Report on Form 10-K and Quarterly Reports on Form 10-Q that Kyverna has filed or may subsequently file with the U.S. Securities and Exchange Commission. Any forward-looking statements contained in this press release are based on the current expectations of Kyverna's management team and speak only as of the date hereof, and Kyverna specifically disclaims any obligation to update any forward-looking statement, whether as a result of new information, future events or otherwise.

For more information, please visit https://kyvernatx.com.

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[2] Payus et al., Am J Case Rep. 2021; 22: e928419-1–e928419-4.

[3] Walton C, et al., Mult Scler. 2020; 26:1816-1821.

[4] Brudno et al., Nature Medicine 2020; 26:270-280.