NEWS RELEASE

# Coya Therapeutics Reports Additional Blood Biomarker and Brain Imaging Data Showing Decrease in Neuroinflammation Following Treatment with COYA 301 in Alzheimer's Disease (AD)

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- Coya reports new data illustrating that administration of COYA 301 (low dose Interleukin-2 (IL-2)) in an open-label study in 8 patients with mild to moderate AD (COYA 301 Trial) resulted in a statistically significant reduction in the expression of three well characterized proinflammatory cytokines -- Tumor Necrosis Factor alpha (TNF-α), Interleukin 6 (IL-6), and Interleukin 1- Beta (IL-1β) -- which correlated with lack of cognitive decline of the patients over the course of the study.
- TNF-α is one of the main inflammatory cytokines involved in initiating and propagating an inflammatory response and its role in the pathophysiology of AD has been documented. The proinflammatory cytokines IL-6 and IL-1β have also been documented to play a central role in AD and in the development of neuroinflammation and induction of neuronal damage.
- Furthermore, Coya reports a case study of a patient in the COYA 301 trial who had pre-treatment and post-treatment Positron Emission Tomography (PET) brain scans to evaluate neuroinflammation. Meaningful reductions in neuroinflammation were observed throughout the cerebral cortex including hippocampal regions following treatment with COYA 301, which correlated with improvement in cognitive function in this patient.
- Coya previously reported that patients in the COYA 301 trial achieved a statistically significant improvement in cognitive function, as measured by the Mini-Mental State Examination test (MMSE) and no cognitive decline when measured by the Alzheimer's Disease Assessment Scale–Cognitive Subscale (ADAS-Cog), and the Clinical Dementia Rating-Sum of Boxes scale (CDR-SB).

- Coya also previously reported that treatment with COYA 301 restored peripheral Treg function and numbers, significantly lowered the levels of systemic chemokines CCL11, CCL2, and cytokine IL-15, and was well tolerated.
- An ongoing academic phase 2 double blind randomized trial (supported by the Gates Foundation and Alzheimer's Association) for use of low dose IL-2 in up to 46 mild to moderate AD patients that is underway at Houston Methodist (led by Alireza Faridar M.D. and the Chair of Coya's SAB, Stanley Appel, M.D.), should report top line data in Q2 2024, and inform Coya on its strategy.

HOUSTON--(BUSINESS WIRE)-- **Coya Therapeutics, Inc.** (NASDAQ: COYA) ("Coya" or the "Company"), a clinical-stage biotechnology company developing multiple therapeutic programs intended to enhance Treg function, including biologics, today reported additional biomarker and brain imaging results from an open-label proof-of-concept clinical study for COYA 301 in patients with mild to moderate AD. Results of the study will be presented June 7th, 2023, at the LD Micro Conferencein Los Angeles, CA. The clinical study data can be viewed **here**.

The open-label study enrolled 8 patients with confirmed presence of brain amyloid pathology and baseline MMSE scores between 12 and 25. The patients were treated with five day-courses of COYA 301 for four monthly cycles and were followed for two months post-treatment. Treg function and numbers, serum biomarkers of inflammation, and cognitive functioning as measured by the ADAS-Cog, CDR-SB and MMSE assessment tools were evaluated.

Clinically, evaluation of cognitive function showed that administration of COYA 301 resulted in a statistically significant improvement in mean MMSE scores during the treatment phase, compared to mean MMSE score at baseline (p=0.015). Consistent with the positive trend in MMSE score, mean scores in ADAS-Cog and CDR-SB scales did not significantly change at the end of treatment with COYA 301, compared to pre-treatment baseline scores, indicating no cognitive decline as measured by these validated instruments.

In addition to COYA 301 administration resulting in a statistically significant reduction of blood biomarkers CCL11, CCL2, and IL-15. Today, we report statistically significant reductions in the peripheral expression of the pro-inflammatory cytokines TNF-α, IL-6, and IL-1β. These biomarkers are well characterized in playing a central role in AD pathophysiology, propagation of neuroinflammation, and contribution to neuronal damage. The consistent reduction of these cytokines correlated with lack of cognitive decline of the patients over the course of the study. Further, the significant reduction of proinflammatory cytokine expression and the lack of clinical decline also correlated with significant increase of regulatory T cell function following the administration of COYA 301.

One of the patients in the study underwent a pre- and post-treatment PET brain scan using a radioligand for imaging 18 kDa translocator protein (TSPO), a biomarker for neuroinflammation. Increased binding of TSPO to activated microglia in brain regions is indicative of heightened inflammation and be observed with a color code with red, orange, and yellow. In contrast, images in green and blue indicate lower levels of neuroinflammation. In this

patient, the pre-treatment PET scan showed high levels of TSPO binding indicative of inflammation throughout the cerebral cortex in both sagittal and coronal views, including in hippocampal regions. The PET scan after the last cycle of COYA 301 showed marked reduction in TSPO binding across the brain representing lowered inflammation. This reduction in inflammation corresponded to improvement in cognitive function as measured by MMSE scores in this patient with AD.

“We believe these additional data further support our Treg-focused approach to develop safe and effective treatments for neurodegenerative diseases of high unmet need. We remain excited about the outcome of our studies with COYA 301 in AD and COYA 302 in ALS, and look forward to the next steps in progressing these programs,” Howard H Berman, Ph.D., founder and Chief Executive Officer of Coya commented.

## About Alzheimer’s Disease

Alzheimer's disease is the most common cause of dementia, a general term for memory loss and other cognitive abilities serious enough to interfere with daily life. Alzheimer's disease accounts for up to 80% of dementia cases, affecting an estimated 5.7 million Americans. In more than 90% of people with Alzheimer’s, symptoms do not appear until after age 60. The incidence of the disease increases with age and doubles every 5 years beyond age 65. Alzheimer's is a progressive disease, where dementia symptoms gradually worsen over a number of years. In its early stages, memory loss is mild, but with late-stage Alzheimer's, individuals lose the ability to carry on a conversation and respond to their environment. It is the sixth leading cause of death among all adults and the fifth leading cause for those aged 65 or older. On average, a person with Alzheimer's lives 4 to 8 years after diagnosis but can live as long as 20 years, depending on other factors. 1,2

## References


1. Alzheimer’s Association (**www.alz.org**).
2. Centers for Disease Control and Prevention (**www.cdc.gov**).


## About Coya Therapeutics, Inc.

Headquartered in Houston, TX, Coya Therapeutics, Inc. (Nasdaq: COYA) is a clinical-stage biotechnology company developing proprietary treatments focused on the biology and potential therapeutic advantages of regulatory T cells (“Tregs”) to target systemic inflammation and neuroinflammation. Dysfunctional Tregs underlie numerous conditions including neurodegenerative, metabolic, and autoimmune diseases, and this cellular dysfunction may lead to a sustained inflammation and oxidative stress resulting in lack of homeostasis of the immune system. Coya’s investigational product candidate pipeline leverages multiple therapeutic modalities aimed at restoring the anti-inflammatory and immunomodulatory functions of Tregs. Coya’s lead therapeutic programs includes Treg-enhancing biologics (COYA 300 Series product candidates) COYA 301 and COYA 302, which are intended to enhance

Treg function and expand Treg numbers. COYA 301 is a cytokine biologic for subcutaneous administration intended to enhance Treg function and expand Treg numbers in vivo, and COYA 302 is a biologic combination for subcutaneous and/or intravenous administration intended to enhance Treg function while depleting T effector function and activated macrophages. These two mechanisms may be additive or synergistic in suppressing inflammation. For more information about Coya, please visit **www.coyatherapeutics.com**.

## Forward-Looking Statements

This press release contains "forward-looking" statements that are based on our management's beliefs and assumptions and on information currently available to management. Forward-looking statements include all statements other than statements of historical fact contained in this presentation, including information concerning our current and future financial performance, business plans and objectives, current and future clinical and preclinical development activities, timing and success of our ongoing and planned clinical trials and related data, the timing of announcements, updates and results of our clinical trials and related data, our ability to obtain and maintain regulatory approval, the potential therapeutic benefits and economic value of our product candidates, competitive position, industry environment and potential market opportunities. The words "believe," "may," "will," "estimate," "continue," "anticipate," "intend," "expect," and similar expressions are intended to identify forward-looking statements.

Forward-looking statements are subject to known and unknown risks, uncertainties, assumptions and other factors including, but not limited to, those related to risks associated with the impact of COVID-19; the success, cost and timing of our product candidate development activities and ongoing and planned clinical trials; our plans to develop and commercialize targeted therapeutics; the progress of patient enrollment and dosing in our preclinical or clinical trials; the ability of our product candidates to achieve applicable endpoints in the clinical trials; the safety profile of our product candidates; the potential for data from our clinical trials to support a marketing application, as well as the timing of these events; our ability to obtain funding for our operations; development and commercialization of our product candidates; the timing of and our ability to obtain and maintain regulatory approvals; the rate and degree of market acceptance and clinical utility of our product candidates; the size and growth potential of the markets for our product candidates, and our ability to serve those markets; our commercialization, marketing and manufacturing capabilities and strategy; future agreements with third parties in connection with the commercialization of our product candidates; our expectations regarding our ability to obtain and maintain intellectual property protection; our dependence on third party manufacturers; the success of competing therapies or products that are or may become available; our ability to attract and retain key scientific or management personnel; our ability to identify additional product candidates with significant commercial potential consistent with our commercial objectives; and our estimates regarding expenses, future revenue, capital requirements and needs for additional financing.

We have based these forward-looking statements largely on our current expectations and projections about future events and trends that we believe may affect our financial condition, results of operations, business strategy, short-term and long-term business operations and objectives, and financial needs. Moreover, we operate in a very competitive and rapidly changing environment, and new risks may emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed herein may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements. Although our management believes that the expectations reflected in our forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances described in the forward-looking statements will be achieved or occur. We undertake no obligation to publicly update any forward-looking statements, whether written or oral, that may be made from time to time, whether as a result of new information, future developments or otherwise.

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