



NEWS RELEASE

# Coya Therapeutics Licenses Intellectual Property Rights for Use of Next Generation Immune Modulatory Biologics in Combination with COYA 301 to Enhance Regulatory T Cells (Tregs) in Inflammatory Diseases

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License from University of Nebraska Medical Center covers multiple low dose interleukin-2 (ld IL-2) combinations, including ld IL-2 + Granulocyte-Macrophage Colony Stimulating Factor (GM-CSF);

New data, viewable [here](#), illustrate that the combination of ld IL-2 + GM-CSF results in a 4-6 fold synergistic increase in Tregs;

License expands on Coya's multi-pathway approach in identifying and combining immunomodulatory drugs with COYA 301 (Coya's proprietary ld IL-2) that have been shown to be synergistic to enhance Treg function and simultaneously lower inflammation

HOUSTON--(BUSINESS WIRE)-- **Coya Therapeutics, Inc.** (NASDAQ: COYA) ("Coya" or the "Company"), a clinical-stage biotechnology company developing multiple therapeutic programs intended to enhance regulatory T cell (Treg) function, has expanded and strengthened its patent estate beyond COYA 302, which is a combination of COYA 301 with CTLA-4 Ig. This license with UNeMed Corporation (UNeMed), the Technology Transfer Office of University of Nebraska Medical Center, covers the combination of COYA 301 with GM-CSF and additional immune analogues and provides a next generation approach with a novel combination to synergistically modulate and reduce inflammation. UNeMed will receive payments upon achievement of certain milestones and will be eligible to receive

tiered low single-digit royalty on net sales.

“We believe that COYA 301 is ideally situated to serve as a backbone drug in combination with other biologics that synergistically modulate the immune system and represent next generation approaches to treating inflammatory disorders, which are driven by complex and multi-factorial pathways. Enhancing Treg activity with COYA 301 in combination with GM-CSF and additional immune analogues creates yet another novel biologic combination in addition to Coya’s lead asset, COYA 302 and expands optionality and potential partnerships,” stated Arun Swaminathan Ph.D., Chief Business Officer.

GM-CSF is a potent immune modulator known to promote Treg activities and dampen pro-inflammatory T effector responses, and Id IL-2 is a cytokine that enhances Treg function and numbers. Preclinical data ([here](#)) generated by the Gendelman laboratory at UNeMed demonstrated that the combination of Id IL-2 + GM-CSF generated a synergistic increase in Tregs in mice tissue, including in peripheral blood, spleen, and lymphoid cells. This included a 4-to-6-fold higher expression of Tregs in mice treated with the combination compared to treatments with either cytokine alone. Other markers that indicate a suppressive Treg phenotype were dramatically increased as well, including a 4-fold increase in CD25+CD127low cells and a synergistic increase in the percentages of CD25+CD4+ Tregs that express CD39+, ICOS+ markers, and GITR+.

Michael Dixon, Ph.D., President and CEO of UNeMed, noted, “This agreement with Coya can potentially bring new therapies to patients suffering from neurodegenerative conditions. Coya’s foundation and progress in low-dose IL-2 research makes them an ideal company to leverage our findings to date.”

## About UNeMed Corporation

UNeMed Corporation is the technology transfer and commercialization office for the University of Nebraska Medical Center. UNeMed serves all UNMC researchers, faculty, and staff who develop new biomedical technology and inventions and strives to help bring those innovations to the marketplace. For more information, please visit [www.UNeMed.com](http://www.UNeMed.com), email [unemed@unmc.edu](mailto:unemed@unmc.edu), or call 402-559-2468.

## About COYA 302

COYA 302 is an investigational and proprietary biologic combination therapy with a dual immunomodulatory mechanism of action intended to enhance the anti-inflammatory function of regulatory T cells (Tregs) and suppress the inflammation produced by activated monocytes and macrophages. COYA 302 is comprised of proprietary low dose interleukin-2 (LD IL-2) and CTLA-4 Ig and is being developed for subcutaneous administration for the treatment of patients with ALS. These mechanisms may have additive or synergistic effects.

In February of 2023, Coya announced results from a proof-of-concept, open-label clinical study evaluating LD IL-2 and CTLA-4 Ig in a small cohort of patients with ALS conducted at the Houston Methodist Research Institute (Houston, Texas) by Stanley Appel, M.D., Jason Thonhoff, M.D., Ph.D., and David Beers, Ph.D. This study was the first-of-its-kind evaluating this dual-mechanism immunotherapy for the treatment of ALS. Patients in the study received investigational treatment for 48 consecutive weeks and were evaluated for safety and tolerability, Treg function, serum biomarkers of oxidative stress and inflammation, and clinical functioning as measured by the ALSFRS-R scale.

During the 48-week treatment period, the therapy was well tolerated. The most common adverse event was mild injection-site reactions. No patient discontinued the study, and no deaths or other serious adverse events were reported.

Patients' disease progression was measured using the ALSFRS-R scale, a validated rating tool for monitoring the progression of disability in patients with ALS. The mean ( $\pm$ SD) ALSFRS-R scores at week 24 ( $33.75 \pm 3.3$ ) and week 48 ( $32 \pm 7.8$ ) after initiation of treatment were not statistically different compared to the ALSFRS-R score at baseline ( $33.5 \pm 5.9$ ), suggesting significant amelioration in the progression of the disease over the 48-week treatment period.

Treg suppressive function, expressed as percentage of inhibition of proinflammatory T cell proliferation, showed a statistically significant increase over the course of the treatment period and was significantly reduced at the end of the 8-week washout post-treatment period. Treg suppressive function at 24 weeks ( $79.9 \pm 9.6$ ) and 48 weeks ( $89.5 \pm 4.1$ ) were significantly higher compared to baseline ( $62.1 \pm 8.1$ ) ( $p < 0.01$ ), suggesting enhanced and durable Treg suppressive function over the course of treatment. In contrast, Treg suppressive function (mean  $\pm$ SD) was significantly decreased at the end of the 8-week washout period compared to end-of-treatment at week 48 ( $70.3 \pm 8.1$  vs.  $89.5 \pm 4.1$ ,  $p < 0.05$ ).

The study also evaluated serum biomarkers of inflammation, oxidative stress, and lipid peroxides. The available data up to 16 weeks after initiation of treatment suggest a decrease in these biomarker levels, which is consistent with the observed enhancement of Treg function. The evaluation of the full biomarker data is ongoing.

COYA 302 is an investigational product not yet approved by the FDA or any other regulatory agency.

## About Amyotrophic Lateral Sclerosis

Amyotrophic lateral sclerosis (ALS), also known as Lou Gehrig's Disease, is a rare neurological disease that affects motor neurons, the nerve cells in the brain and spinal cord that control voluntary muscle movement. About 20,000 people live with ALS in the United States and approximately 5,000 new cases are diagnosed every year. The disease is progressive, meaning the symptoms get worse over time. The functional status of ALS patients declines about 1

point per month on average, as measured by the Revised ALS Function Rating Scale<sup>1</sup>, or ALSFRS-R, a validated tool to monitor the progression of the disease.

ALS has no cure, and the currently approved drug treatments provide limited benefit to patients. ALS is a type of motor neuron disease. As motor neurons degenerate and die, they stop sending messages to the muscles, which causes the muscles to weaken, start to twitch (fasciculations), and waste away (atrophy). Eventually, the brain loses its ability to initiate and control voluntary movements. Most people with ALS die from respiratory failure, usually within three to five years from when the symptoms first appear.<sup>2</sup>

## About Frontotemporal Dementia

Frontotemporal dementia (FTD) is the result of damage to neurons in the frontal and temporal lobes of the brain. Many possible symptoms can result, including unusual behaviors, emotional problems, trouble communicating, difficulty with work, or difficulty with walking. FTD is rare and tends to occur at a younger age than other forms of dementia. About 60% of people with FTD are 45 to 64 years old. FTD is progressive, meaning symptoms get worse over time. In the early stages, people may have just one symptom. As the disease progresses, other symptoms appear as more parts of the brain are affected. It is difficult to predict how long someone with FTD will live. Some people live more than 10 years after diagnosis, while others live less than two years after they are diagnosed. There is no cure for FTD, and no treatments slow or stop the progression of the disease.<sup>3</sup>

## About Parkinson's Disease

Parkinson's disease (PD) is a progressive brain disorder that causes unintended or uncontrollable movements, such as shaking, stiffness, and difficulty with balance and coordination. The most prominent manifestations of PD occur when nerve cells in the basal ganglia, an area of the brain that controls movement, become impaired or die. As the disease progresses, people may have difficulty walking and talking. They may also have mental and behavioral changes, sleep problems, depression, memory difficulties, and fatigue. Most people with PD first develop the disease after age 60, but about 10% experience onset before the age of 50. There is no cure for PD and currently available treatments are intended to relieve some symptoms.<sup>4</sup>

## References

1. Atassi N, et al. The PRO-ACT database: design, initial analyses, and predictive features. *Neurology*, 2014;83:1719–1725. doi: 10.1212/WNL.0000000000000951.
2. National Institutes of Health (NIH) Website (<https://www.ninds.nih.gov>), accessed on January 8, 2024.
3. National Institutes of Health (NIH) Website (<https://www.nia.nih.gov>), accessed on January 8, 2024.
4. National Institutes of Health (NIH) Website (<https://www.nia.nih.gov>), accessed on January 8, 2024.

## 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 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 therapeutic platforms include Treg-enhancing biologics, Treg-derived exosomes, and autologous Treg cell therapy. Coya’s 300 Series product candidates, COYA 301 and COYA 302, are biologic therapies 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. 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](http://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 will 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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