



## **Coave Therapeutics Receives Grant from the ALS Association to Advance its CTx-TFEB Program as a Potential Treatment for All Forms of ALS**

*CTx-TFEBx is a novel, targeted genetic medicine approach designed to promote autophagy and reduce the accumulation of toxic protein aggregates in neurons*

*Funding aims to support the progression of CTx-TFEBx program through to preclinical proof-of-concept*

**Paris, France, February 29<sup>th</sup>, 2024** – Coave Therapeutics ('Coave'), a genetic medicine company focused on developing life-changing therapies, is delighted to announce that it is one of six organisations sharing \$2.9 million in grants from the [ALS Association](#) that support the advancement of novel therapies for the treatment of amyotrophic lateral sclerosis (ALS). The grant, which will support the development of Coave's CTx-TFEBx program through to preclinical proof-of-concept, has been made through the Association's Lawrence and Isabel Barnett Drug Development Program.

ALS is a progressive neurodegenerative disease that affects nerve cells in the brain and spinal cord. Over the course of the disease, people lose the ability to move, to speak, and eventually, to breathe. While more than 40 different genes have been linked to ALS, the majority of cases are considered "sporadic." On average, it takes about a year before a final ALS diagnosis is made. The disease is always fatal, usually within five years of diagnosis. There is currently no cure.

The neuronal accumulation of toxic protein aggregates is a common feature of many neurodegenerative diseases. In most people with ALS, such toxic clumps negatively impact the function of brain and spinal cord motor neurons, thus leading to their progressive degeneration. While healthy cells can break down protein aggregates through a process known as autophagy, this process has been shown to be strongly dysregulated in ALS. It is anticipated that increasing autophagy could promote the clearance of accumulated toxic material and thereby halt both motor neuron degeneration and ALS progression.

CTx-TFEBx is a novel genetic medicine approach designed by Coave to promote autophagy in ALS patients irrespective of genetic subtype, offering the possibility of creating a pan-ALS therapy.

CTx-TFEBx leverages Coave's ALIGATER™ platform and comprises a conjugated AAV ('coAAV') that enables the targeted delivery of transcription factor EB (TFEB) gene to neurons in the brain and spinal cord. TFEB has recently emerged as a 'master activator' of the autophagy-lysosomal (ALP) pathway<sup>1</sup>. Indeed, while reduced TFEB protein levels in brain and spinal tissues are associated to the accumulation of protein aggregates, enhancing autophagy through TFEB activation promotes ALP function thus leading to the clearance of such aggregates.<sup>2-4</sup>



**Lolita Petit, CSO of Coave Therapeutics, commented:** *“Modulating autophagy using TFEB gene therapy is an exciting approach to promote the clearance of accumulated toxic material in affected neurons, halt motor neuron degeneration and preserve muscular function in people with ALS. With this funding and invaluable support from the ALS Association, we are poised to move our CTx-TFEB program forward. Our goal is to establish a robust preclinical proof-of-concept, laying a strong foundation for advancing to the clinic in the near future. Together, we are now on the brink of a breakthrough that promises hope and progress for patients impacted by ALS.”*

**Kuldip Dave, Ph.D., Senior Vice President of Research at the ALS Association, said:** *“We urgently need more and better treatments that can improve and extend the lives of people with ALS. We are proud to help drive the crucial transition from preclinical to clinical development for potential new ALS therapies through our Lawrence and Isabel Barnett Drug Development Program. Getting promising treatments out of the laboratory and into clinical testing as quickly as possible is key to making ALS a livable disease until we can cure it.”*

## References

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2. Wang, H. *et al.* Transcription Factor EB Is Selectively Reduced in the Nuclear Fractions of Alzheimer's and Amyotrophic Lateral Sclerosis Brains. *Neurosci J.* (2016) 2016:4732837
3. Chen, Y. *et al.* The altered autophagy mediated by TFEB in animal and cell models of amyotrophic lateral sclerosis. *Am J Transl Res* (2015) Sep 15;7(9):1574-87
4. Wang, Y. *et al.* Autophagic Modulation by Trehalose Reduces Accumulation of TDP-43 in a Cell Model of Amyotrophic Lateral Sclerosis via TFEB Activation. *Neurotox Res* (2018) Jul;34(1):109-120

## About the ALS Association

The ALS Association is the largest ALS organization in the world. The ALS Association funds global research collaborations, assists people with ALS and their families through its U.S. network of care and certified clinical care centers, and advocates for better public policies for people with ALS. The ALS Association is working to make ALS a livable disease while urgently searching for new treatments and a cure. For more information about the ALS Association, visit our website at [www.als.org](http://www.als.org).

## About Coave Therapeutics

At Coave Therapeutics, we are leading the transition of genetic medicine from rare to prevalent conditions, starting with neurodegenerative and eye diseases. Our proprietary ALIGATER™ (Advanced Vectors-Ligand Conjugates) platform introduces chemical modifications onto AAV capsids or Lipid Nanoparticles (LNPs) to overcome the limitations of current vectors on efficacy, safety, and manufacturability.

With low doses and optimized routes of administration, our conjugated vectors have demonstrated markedly improved transduction and biodistribution in the central nervous system and the eye across different species. Our diverse pipeline of novel genetic medicines can potentially transform the lives of



people afflicted by rare and prevalent neurodegenerative and ocular diseases – including genetically and non-genetically defined indications.

Headquartered in Paris, France, Coave Therapeutics is backed by leading international life sciences investors. For more information about the science, pipeline, and people, please visit <https://coavetx.com/> and follow us on [LinkedIn](#).

## **CONTACTS**

### **Coave Therapeutics**

Rodolphe Clerval, CEO

[contact@coavetx.com](mailto:contact@coavetx.com)

### **MEDISTRAVA Consulting**

Sylvie Berrebi, Leila Adlam, Mark Swallow

[coavetx@medistrava.com](mailto:coavetx@medistrava.com)

Tel: +44 (0)203 928 6900

### **Media Contact at the ALS Association:**

Brian Frederick

[brian.frederick@als.org](mailto:brian.frederick@als.org)