



# New startup Arialys takes aim at the immune system, hoping to create neuropsychiatry drugs

Backed by Johnson & Johnson's venture arm, among others, Arialys plans to take a medicine it acquired from Astellas Pharma into clinical testing next year.

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*An illustration of neuron cells in abstract dark space. whitehouse via Getty Images*

A new biotechnology company with tens of millions of dollars in funding aims to develop more precise treatments for so-called neuropsychiatric disorders.

Launched on Tuesday, Arialys Therapeutics says it was founded on recent scientific discoveries that point to the immune system as a main culprit behind some of these disorders. The biotech's research focuses on "autoantibodies" — proteins created by the immune system that attack the body's own tissues.

"Precision medicine approaches have led to tremendous successes in oncology, and now we have the insights to be at the forefront of developing precision medicines to transform the treatment landscape for neuropsychiatry," said Mitsuyuki Matsumoto, Arialys' scientific founder and chief scientific officer, in a statement.

Sometime next year, Arialys plans to ask the Food and Drug Administration for permission to begin human testing of its most advanced program, an experimental medicine known as ART5803.

According to Arialys, data from a nonhuman primate disease model indicate the medicine could help treat ANRE, or anti-NMDA receptor encephalitis, a rare, potentially deadly condition in which autoantibodies impair proteins critical to brain function and memory. The biotech said ART5803 appears to reverse brain swelling and decrease the behavioral symptoms caused by the harmful antibodies.

Arialys bought the medicine from Astellas Pharma, where Matsumoto previously served as head of the Japan-based company's neuroscience research unit.

In addition to ANRE, Arialys wants to test whether its medicine can treat more common illnesses like schizophrenia and dementia tied to Alzheimer's disease. The company also aims to identify other autoantibodies that drive neuropsychiatric diseases and develop new drugs to block them.

Arialys debuts with \$58 million from a group of life sciences investors that includes the biotech's founding backers — Avalon BioVentures, Catalys Pacific and MPM BioImpact — along with Alexandria Venture Investments and Johnson & Johnson's venture arm.

For J&J, which records almost \$7 billion in annual sales from brain drugs like Concerta and Invega Sustenna, Arialys is another bet on neuroscience. J&J was also an early investor in Rapport Therapeutics, a startup that launched in March with hopes of creating precision medicines for central nervous system diseases.

More broadly, neuroscience — viewed for years as a high-risk research area by many of the world's leading drugmakers — has

more recently received renewed interest.

The startup Neumora Therapeutics, for example, has raised more than \$600 million from a deep bench of investors that includes Amgen, Arch Venture Partners and other venture firms. Last month, Neumora filed plans to go public, bucking a prolonged downturn in the biotech stock market that's kept many young drugmakers from pursuing an initial public offering.

GSK also mounted somewhat of a return to neuroscience in 2021. First, the U.K.-based pharmaceutical giant agreed to pay at least \$700 million for rights to two experimental drugs from Alector, a Californian company tapping into the immune system to combat neurodegenerative diseases.

Months later, GSK said it was partnering with the University of Oxford to establish a new center dedicated to making the drug development process faster and more effective. The center's initial focus is diseases of the brain, such as ALS, Alzheimer's and Parkinson's.

The uptick in investment comes as new drugs for Alzheimer's disease and ALS, or amyotrophic lateral sclerosis, have broken through with high-profile FDA approvals.