Eli Lilly licenses preclinical antisense program designed to treat ALS, dementia

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Eli Lilly added another neuroscience program to its pipeline, licensing an antisense oligonucleotide from the ALS biotech QurAlis.

The deal, announced Monday, is the latest indicator that Lilly is still investing in new neuro drugs ahead of the FDA advisory committee for its Alzheimer's drug donanemab on June 10. The QRL-204 program joins a pipeline of neuro candidates in Parkinson's disease and Gaucher disease type 1 in addition to gene therapies for hearing loss and dementia.

Lilly is paying $45 million upfront and making an undisclosed equity investment for QRL-204 and other QurAlis programs that target the same gene, known as UNC13A. In return, QurAlis could receive up to $577 million in milestones as well as royalties on future sales.

A Lilly spokesperson declined to comment beyond the QurAlis press release.

UNC13A is believed to be a driver of neurodegeneration in ALS and other diseases like frontotemporal dementia. The gene can become mis-spliced in ALS and FTD patients, leading to some neurotransmitters becoming dysregulated. The compound is designed to restore function of the UNC13A protein.

QurAlis CEO Kasper Roet told Endpoints News that the program, which hasn't yet been tested in humans, drew "a lot of interest" from potential partners. The Cambridge, MA-based biotech has two programs further ahead of QRL-204 in its pipeline, and spending the time and resources to get a third compound into the clinic might have hampered its other ALS efforts, he said.

"We realized three clinical programs — we're going to have to divide the attention of our team," Roet said. "ALS is, I guess, a hot disease for pharma companies [when] genetic targets are of interest."

The program is also designed to treat "sporadic" ALS, which occurs when patients manifest the disease without a family history. Researchers and biopharma companies estimate roughly 90% of all ALS cases are sporadic, while the remaining 10% are hereditary. There are about 30,000 people living with ALS in the US, according to CDC estimates.

Biogen's Qalsody, an ALS treatment approved last year, is only indicated for familial ALS patients with a specific mutation called SOD1. It's a group of patients that makes up about 1% to 2% of all ALS cases.

But QurAlis estimates that UNC13A mutations exist in up to 63% of ALS patients. UNC13A also plays a significant role in another pathology dubbed TDP-43, and the company said TDP-43 toxicity exists in

about 90% of ALS patients.

“The new stream of thought is loss of function of TDP-43 in the nucleus is causing the toxicity in the disease pathology,” Roet said. “The genetics centers around the loss of function. UNC13A falls in that category.”

If the drug gets into the clinic, succeeds in clinical trials and gets past the FDA finish line — an exceedingly tough challenge given the high rate of failure in ALS drug development — it could significantly change how many ALS patients can receive treatment with genetically targeted medicines.

Source: Endpoints News