LoQus23 exits stealth with £11.5m seed funding

Cambridge has hatched a life science innovator dedicated to fighting neurodegeneration with novel technology. LoQus23 Therapeutics is discovering small molecule therapies that target aberrant DNA mismatch repair (MMR) to treat Huntington's and other triplet repeat diseases (TRDs).

The company has closed a £7 million extended seed round from Novartis Venture Fund (NVF) and its founding investor the Dementia Discovery Fund (DDF). This round follows an initial £4.5 million seed investment by the DDF in 2019.

Triplet repeat diseases are genetic disorders that primarily affect the nervous system and are caused by abnormal trinucleotide repeat expansions.

Human genome-wide association studies on Huntington's disease and other TRDs has shown clearly that clinical disease measures such as age of onset and rate of progression are critically modified by genetic variants that increase MMR pathway activity.

Aberrant activity of the MMR pathway leads to further expansions of trinucleotide repeats in the DNA sequence. This translates into more toxicity in the neurones of vulnerable brain regions, thus accelerating the rate of neurodegeneration.

LoQus23's differentiated, structure-based approach targets proteins involved in MMR with small molecule drugs to stop DNA instability and slow neurodegeneration in Huntington's disease, myotonic dystrophy type 1 and other TRDs.

Oral small molecule drugs have a strong track record in treating complex brain diseases and provide greater

convenience for patients compared with other treatment approaches, which require invasive procedures such as spinal taps, intrathecal infusions or brain surgery.

The financing will enable LoQus23 to identify a small molecule drug candidate for the company's lead MMR target and explore other MMR proteins for their role in somatic instability in TRDs.

David Reynolds, CEO and co-founder of LoQus23, said: "We're delighted that NVF is joining the Dementia Discovery Fund in this extended seed round.

"Small molecule therapies have an established precedent of efficacy and safety in treating CNS disorders, giving us greater confidence of success when using this approach to target aberrant DNA mismatch repair, and with NVF and DDF behind us LoQus23 is well positioned to advance its pipeline of disease-modifying drugs in triplet repeat disorders."

Christian Jung, partner at the Dementia Discovery Fund and board director at LoQus23, added: "This significant early interest in LoQus23 is a strong validation of the company's approach to pursue genetically-validated targets for the treatment of triplet repeat diseases.

"Discovering oral drugs that are effective against aberrant DNA mismatch repair could significantly improve the lives of patients with devastating genetic diseases like Huntington's and it's great to see that both DDF and NVF have recognised the same potential in the company, which has rapidly become one of the frontrunners in the field of disease-modifying drugs in this TRD space."

LoQus23 was founded in 2019 by members of the Dementia Discovery Fund including Dr David Reynolds, Dr Caroline Benn, and Dr Ruth McKernan – ex-Pfizer chief in Cambridge.