NIH to use Oxford Nanopore's PromethION in Alzheimer's and related dementias research

Scientists at the NIH CARD, have purchased the Oxford Nanopore's PromethION devices for use in expanded Alzheimer's and related dementias research.

OXFORD, OXFORDSHIRE, UNITED KINGDOM, May 17, 2021 /EINPresswire.com/ -- Scientists at the National Institutes of Health's new intramural research effort, the Center for Alzheimer's and Related Dementias (CARD), have purchased the Oxford Nanopore's PromethION devices for use in expanded Alzheimer's and related dementias research.

> "We're delighted to be supporting this important project from the NIH, to further understand the genomic changes that occur in Alzheimer's and dementia, at unprecedented scale."
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> *Gordon Sanghera, CEO at Oxford Nanopore Technologies*

Using PromethION, CARD researchers will generate long-read sequencing data from roughly 4000 patients with Alzheimer's disease, frontotemporal dementia, Lewy body dementia, and healthy subjects.

Using Oxford Nanopore's sequencing technology, researchers will be able to gain greater insight into challenging regions of the genome which could play a role in driving Alzheimer's disease and related dementias' pathology, at a scale not seen before.

With this research, the aim is to build a public resource consisting of long-read genome sequencing data from a large number people with Alzheimer's disease and related dementias and healthy individuals.

Nanopore sequencing reads can span large and complex regions of the genome, enabling scientists to build a more comprehensive picture, in health and disease.

To build this comprehensive picture, the scientific teams need to sequence thousands of samples, so they have turned to the ultra-high throughput PromethION device. This will allow them to look at large areas of genetic variation across many genomes, of which some have already been linked to normal aging and neurodegenerative diseases.

Learning more about these variations — which until now have been very hard to look at — will enhance our understanding of the underlying pathology of Alzheimer's disease, frontotemporal

dementia and Lewy body dementia.

The understanding gained from this in-depth look at the genome of these patients will help to inform the development of effective treatments.

Gordon Sanghera, CEO Oxford Nanopore Technologies said:

“We’re delighted to be supporting this important project from the NIH, to further understand the genomic changes that occur in Alzheimer’s and dementia, at unprecedented scale.”

PromethION 48 is Oxford Nanopore’s highest throughput device – from a single flow cell (of which there are 48), it is possible to sequence a whole human genome to high coverage, with the benefit of being able to scale this up to meet the demands of the experiment.

Once the sequencing is complete, the raw and processed data will be made publicly available to the scientific community to encourage collaborative analysis of the results.

This content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

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