

Research into degenerative brain disease uses Qlucore Omics Explorer

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Degenerative brain disorders affect more than 45 million people worldwide. These diseases often strike older adults and are characterized by progressive deterioration of nerve cells, eventually leading to cell death. Through human and animal studies researchers are developing new diagnosis and treatment of these disorders, with the goal of slowing or stopping their progression. Finding the cause of each degenerative disorder is important in identifying treatments.

Rodin Therapeutics is a venture-backed biotechnology company developing best-in-class therapeutics for neurological disorders by harnessing the power of targeting genes that improve impaired synaptic function. Rodin's approach is to improve neuronal synaptic resilience via the selective inhibition of histone de-acetylase (HDAC) complexes. Evidence supports that the modulation of selective gene regulatory processes can restore synaptic plasticity and cognitive function deficits present in degenerative brain diseases, including Alzheimer's disease and Parkinson's disease dementia.

Scientists at Rodin study changes in gene expression in brain regions of wild-type and Alzheimer's transgenic animals after treatment with Rodin compounds. Treatment up-regulates the expression of selected genes associated with learning and memory; QOE was chosen to analyze NanoString and other Omics data used to characterize the response to treatment with Rodin's compounds. Omics Explorer from Qlucore was selected as the best blend of power and ease-of-use that Rodin scientists could use for analysis of this Omics data.

Studying epigenetic changes is a challenging area of drug discovery and development, and has high requirements for data analysis tools in terms of accuracy, flexibility and interactivity. Powerful visualization and interactive tools for hypotheses generation and testing are valuable for Omics research. Omics experimental methods are becoming critical in many areas of drug discovery, to allow the development of next generation, innovative therapeutics.

"With Qlucore I instantly see how my data responds to changes in statistical parameters and cutoffs, and have a choice of the best methods for high dimensional data. I can use both supervised and unsupervised methods as 3D PCA, heatmaps, and clustering. Hypotheses testing is significantly helped by this constant feedback, as I can set up analysis, view results, and modify settings with a few clicks," comments Dr. Berkley Lynch, Senior Director of CNS Research at Rodin.

Qlucore Omics Explorer is the new generations bioinformatics software with focus on ease of use, speed and interactivity. The simplicity of this interaction makes it possible for researchers to work with powerful and statistical analysis in entirely new ways. Not only that, but faster analysis also means that scientists often have more time to test more creative theories, which in turn leads to better research results

"We are delighted that Rodin has chosen to use Qlucore Omics Expolorer in the important research they are conducting," commented Carl-Johan Ivarsson, President of Qlucore. "The US is an important and fast-growing market for Qlucore."