current issues in molecular biology

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an Open Access Journal by MDPI

Molecular Genetics and Genomics in Neurodegenerative Diseases

Guest Editor:

Dr. Weiran Shan
Department of Anesthesiology, University of Virginia, Charlottesville, VA 22901, USA

Deadline for manuscript submissions:
closed (31 December 2023)

Message from the Guest Editor

Neurodegenerative diseases are characterized by the progressive loss of structure or function of neurons, glial cells, and the neural networks in the brain and spinal cord, affecting people's movement, mental functioning, speech and breath. Alzheimer's disease and Parkinson's disease are the most common neurodegenerative diseases. With the efforts of many researchers, some patho-mechanisms underlying these diseases have been proposed. During the past few decades, remarkable advances has been witnessed in gene sequencing technology. Genome-wide association studies have been applied to identify susceptibility genes and risk variants. The rapid development of bioinformatic technology and the reduced cost of gene sequencing enables the advances in next-generation gene sequencing. Whole-genome sequencing (WGS) and whole-exome sequencing (WES) are now widely applied in identifying rare variant genes, as well as casual and susceptibility genes in neurodegenerative diseases. The advanced technology has enabled us to identify potential therapeutic interventions for diagnosis or control of neurodegeneration.