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Validating Tuba1b Changes in Microarray Gene Expression in the Anterior Prefrontal Cortex of People with Schizophrenia, and Defining its Impact on Cellular Functioning

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Despite considerable research schizophrenia remains an enigma for molecular psychiatry and neuroscience. Genetic studies (gene mutation, CNV and SNPs) have defined possible roles for the genes responsible for this debilitating neuropsychiatric disorder which has an unknown clear aetiology. A microarray analysis of more than 33,000 genes indicated that the least expressed gene in the BA10 of schizophrenia patients was TUBA1B. BA10 is one of the most important and least studied parts of the human brain with a role in the emergence of the negative symptoms of the disorder. TUAB1B has a pivotal role in the formation and maintenance of the cytoskeleton. Several studies examined the regulation of TUBA1B at the exon structure level. However, further epigenetic-focused research is required to show the relationship between this epigenetic-oriented regulatory pathway in transcriptome and proteomic levels related to this specific marker. A set of qPCR experiment following an ANOVA analysis will be conducted to validate the low level of expression of TUBA1B in BA 10 of schizophrenic patients compared to normal samples. Furthermore, by elucidating molecular mechanisms behind tuba1b regulation, we aim to relate the cognitive deficits of patients in SCZ to this low expression of this susceptibility factor identified for the pathophysiology of SCZ. Therefore, a comprehensive investigation at the transcriptome (qPCR) and proteomic levels is required to justify this hypothetical relevance between altered expressions of Tuba1b and cognitive deficiencies in Schizophrenia in post-mortem studies of BA10.

Biography

Ella Noorian is working as PhD Researcher in The Florey Institute of Neuroscience and Mental Health, Australia. She is also member of Brain Research Committee 2017.

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