Novel ALS biomarkers:Towards diagnostics and potential therapy (Ramot)

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The Technology

Novel ALS biomarkers, differentially expressed in blood and bone marrow samples from ALS patients have been identified. These are Cytoplasmic FMR Interacting Protein 2 (CyFIP2) and Retinoblastoma (Rb) Binding Protein 9 (RbBP9). Both demonstrate significant decrease in post transcriptional RNA editing and significant difference in gene expression in peripheral blood lymphocytes isolated from blood samples (17 ALS patients), as seen by quantitative real time-PCR (qRT-PCR) and western blot suggesting a problem in the regulation of these genes in ALS.

CyFIP2 & RbBP9 are associated with cellular stress, cell death and repair. Therefore, these biomarkers can be used for ALS diagnosis and as targets for screening and identifying lead compounds for the treatment of ALS.

Data-to-date

Differential expression of these genes was tested in peripheral blood leukocytes isolated from blood samples of 17 ALS patients. It was discovered that expression levels of CyFIP2 and RbBP9 were significantly different compared to the levels of expression of these two genes as compared with 19 normal PBL samples.

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