Micro-RNA Assay for the Diagnosis and Treatment of Schizophrenia

DESCRIPTION

Schizophrenia is a disabling brain disease that affects more than two million Americans any given year. Dopamine inhibitors are currently used to treat schizophrenia, but negative side-effects have been associated with dopamine deficits in the brain. Therefore, there is a need for more effective diagnosis and treatment of the disease. Ectopically expressed variant microRNA (miRNA) precursors have been shown to promote altered expression of key genes involved with the development of schizophrenia. The featured technology identifies 12 specific miRNAs strongly associated with the development and progression of schizophrenia. Quantification of these miRNAs in a molecular diagnostic assay may serve as a useful predictor of disease. Modification of these miRNAs in schizophrenic via gene therapy techniques or by administering agents to antagonize RNA function is another aspect of this technology. This method addresses current unmet needs and facilitates therapy selection for individuals at risk for or suffering from schizophrenia or psychosis by use of miRNAs.

KEY ASPECTS

- Use of miRNA for early detection of schizophrenia
- A functional screen tests miRNA variants for likely contribution to schizophrenia
- miRNA genes or alleles applicable to the method include let-7f-2, mir-18b, mir-SOS, mir-S02, mir-188, mir-32S, mir-660, mir-S09-3, mir-SIO, mir-421, mir-934, and mir-4S0a-2

INTELLECTUAL PROPERTY

Title	US Patent Application	Filed
Micro RNAs and their methods of use for the treatment and diagnosis of schizophrenia and schizophrenia spectrum disorders	12/484,145	6/12/2009

CONTACT

Matthew Grunseth, M.B.S.
Manager, Office of Technology Licensing
Telephone: (626) 471-7221 | Email: mgrunseth@coh.org

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