Docket #: S05-073

Compositions and Methods for Diagnosing and Treating Psychotic Disorders

This invention is from the Pritzker Neuropsychiatric Disorders Research Consortium, a collaborative research enterprise comprised of several leading academic institutions and based on a long-term relationship between the Pritzker family and scientists at the various institutions. Groups at UC Davis, UC Irvine, Stanford University, University of Michigan and Cornell conduct studies on human post-mortem tissue, isolated populations and various animal models to identify altered profiles of gene expression in brain circuits associated with neuropsychiatric disorders.

From the published patent application:
In order to further understand the neurobiology of psychotic disorders such as schizophrenia, the inventors of the present application have used DNA microarrays to study expression profiles of human post-mortem brains from patients diagnosed with schizophrenia. The work has focused on six brain regions that are pathways or circuits involved in schizophrenia: the anterior cingulate cortex (AnCg), dorsolateral prefrontal cortex (DLPFC), cerebellar cortex (CB), superior temporal gyrus (STG), parietal cortex (PC), and nucleus accumbens (nAcc).

The present invention demonstrates differential expression of genes in selected regions of brains of patients suffering from schizophrenia in comparison with normal control subjects. These genes include the transcripts listed in Table 1 of the patent application; the genes listed in Table 2 which are differentially expressed in the AnCg using Affymetrix chips and using brains with no agonal factors; the genes listed in Table 3 which are differentially expressed in the DLPFC using Affymetrix chips and using brains with no agonal factors; and the genes listed in Table 4 which are significantly dysregulated in both lymphoblastic and brain tissues.

In addition, the present invention identifies genes which are not differentially regulated in brain tissue but which are differentially regulated in lymphocytes of schizophrenic patients (Table 5). Also provided is a list (Table 6) of single nucleotide polymorphic markers which are related to aspartylglucosaminuria (AGA), a gene which is dysregulated in both brain and lymphocytes of schizophrenic patients. Tables 7 and 8 show genes that are dysregulated in schizophrenia, major depression, and bipolar disorder.

Publications

- U.S Patent Application 2006-0257903.

Patents

- Published Application: 20060257903
- Published Application: WO2006105516
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