Biomarkers For Psychosis

Tech ID: 23230 / UC Case 2007-235-0

BACKGROUND

The diagnosis of psychiatric disorders, such as bipolar disorder, is currently dependent on the presentation of clinical or psychological symptoms over an extended period of time. Given that several psychiatric disorders are heritable, the identification of biomarkers for them would provide a major advance in early diagnosis. While some researchers have pursued gene-based biomarkers, such as mRNA expression levels, other investigators are discovering novel biomarkers using microarray analysis, such as the correlation between the increased expression of a specific protein in the blood and brain of patients with schizophrenia.

TECHNOLOGY DESCRIPTION

Researchers at UC San Diego have elucidated novel methods to diagnose psychosis and bipolar disorder by measuring the relative amount of key protein biomarkers in psychotic and non-psychotic individuals. This technology includes a method to diagnose psychotic and non-psychotic bipolar disorder by measuring the relative expression of growth-associated protein 43 (GAP-43) or its mRNA in blood.

The inventors successfully demonstrated this technology in a study of 35 patients with schizophrenia, 35 with bipolar disorder, and 35 matched non-psychiatric controls (the Stanley Array Collection maintained by the Stanley Medical Research Foundation). They found that the pre-synaptic protein GAP-43 was increased by 22 percent in psychotic bipolar and 18 percent in non-psychotic bipolar subjects compared to controls (Tian SY et al. 2007).

INTELLECTUAL PROPERTY INFO

Intellectual Property Information: This invention is available for licensing in the United States. US patent to issue imminently.

RELATED MATERIALS

- KANAZAWA, T et al., The Utility of SELENBP1 Gene Expression as a Biomarker for Major Psychotic Disorders: Replication in Schizophrenia and Extension to Bipolar Disorder with Psychosis, American Journal of Medical Genetics Part B (Neuropsychiatric Genetics, AJMB-07-0187.R1(30664), (2007), 4 pages. - 09/05/2008
- TIAN, SY et al., Immunoreactivity of 43KDa Growth-Associated Protein is Decreased in Post Mortem Hippocampus of Bipolar Disorder and Schizophrenia, Neuroscience Letters, (10 Jan 2007), 123-127. - 01/10/2007
- GLATT, SJ et al., Comparative Gene Expression Analysis of Blood and Brain Provides Concurrent Validation Of SELENBP1 Up-Regulation In Schizophrenia, Proceedings of the National Academy of Sciences of the United States of America, Vol. 102(3), (25 Oct. 2005), pp. 15533-15538. - 10/25/2005

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	8,470,299	06/25/2013	2007-235

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OTHER INFORMATION

CATEGORIZED AS

- Medical
  - Diagnostics
  - Disease: Central Nervous System

RELATED CASES

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