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A Blood-based Diagnostic Test for Early Stage Detection of Autism Spectrum Disorders (ASD)

Tech ID: 25534 / UC Case 2014-052-0

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INVENTORS

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OTHER INFORMATION

KEYWORDS

Autism, ASD, Diagnostic,

Blood testing, Early

intervention, Biomarkers

CATEGORIZED AS

▶ **Medical**

▶ Diagnostics

▶ Disease: Central

Nervous System

▶ Research Tools

▶ Screening

RELATED CASES

2014-052-0

INVENTION NOVELTY

A revolutionary blood-based diagnostic test measures three kinase signaling pathway activities to determine the likelihood of the patient having ASD at an early stage.

VALUE PROPOSITION

According to the CDC, 1 in 68 children has been identified with ASD. However, most autism children are not diagnosed until after the age of four through a series of behavioral evaluations. This delay in diagnosis can prevent the child from benefiting from early intervention therapies, which have been shown to reduce the severity of the disorder by improving brain function and behavior. Since there are no blood-based diagnostics available on the market, this simple and accurate test for ASD could revolutionize the field.

Advantages

▶

Measures blood-based biomarkers related to the increased likelihood of ASD occurrence

▶

Allows for early intervention to increase the positive impact of behavioral therapy

TECHNOLOGY DESCRIPTION

Alterations in protein kinase signaling activities seen in the brain tissue of ASD animal models can also be observed in the readily accessible peripheral blood cells. This opens the exciting door for using a blood test to assess the likelihood of having ASD. The inventors have correlated three signaling protein kinase activities, measurable in the blood. This invention measures the activity levels of these pathways and compiles these measurements into a patent-pending diagnostic formula which is validated on human patient samples.

APPLICATION

▶ The development of a diagnostic assay for early blood-based screening for autism

▶ To measure response of pharmacological therapies used to treat autism patients (future directions)

LOOKING FOR PARTNERS

To develop and commercialize the technology to early screen and diagnose children for autism spectrum disorders

STAGE OF DEVELOPMENT

Pre-clinical

RELATED MATERIALS

▶ Mol Autism. 2014 Dec 22;5:57.

DATA AVAILABILITY

Animal data and human autism patient data available

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	10,941,194	03/09/2021	2014-052

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

▶ New Therapeutic Use of Existing Compounds to Treat Hearing Loss

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