Diagnostic biomarkers for autism spectrum disorder

Technology #2368

This technology provides a panel of biomarkers for early detection of autism spectrum disorder (ASD).

Unmet Need: Early detection and diagnosis of ASD

Diagnosis of ASD is currently based on behavioral assays that typically can only be performed after three years of age. However, early intervention in ASD is associated with dramatically improved patient outcomes. As such, non-behavioral based diagnostic tests, such as those using genetic markers or biomarkers, could greatly improve patient outcomes in ASD by allowing earlier detection and intervention.

The Technology: Gastrointestinal biomarkers for early detection of ASD

This technology provides a panel of biomarkers for early detection of ASD. As many children with autism experience gastrointestinal (GI) disease, this technology probes for alterations in the expression of carbohydrate metabolic enzymes, carbohydrate transporters, and/or the levels of specific gut bacteria subtypes which may indicate a predisposition to ASD. As many of these biomarkers can potentially be detected in utero, this technology could lead to drastically earlier ASD detection and provide the opportunity for early intervention.

This technology has verified biomarkers of ASD by comparing samples from individuals with and without ASD.

Applications:

- Development of diagnostic assays for ASD
- Prenatal genetic risk assessment for ASD
- Determination of autism ‘carrier’ status in parents

Advantages:

- May enable early detection and diagnosis of ASD
• May enable early intervention in ASD for improved patient outcomes
• Minimally invasive sample collection
• Biomarkers are compatible with existing screening technologies

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Patent Information:

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Related Publications:


Tech Ventures Reference:

• IR 2368, IR 2675
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