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Diagnosis of Multiple Sclerosis, Autoimmune Disorders and Diseases Related to Glycan Dysregulation

Tech ID: 26007 / UC Case 2014-976-0

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OTHER INFORMATION

CATEGORIZED AS

- » **Medical**
 - » Diagnostics
 - » Disease: Autoimmune and Inflammation
 - » Disease: Cancer
 - » Screening
- » **Research Tools**
 - » Screening Assays

RELATED CASES

2014-976-0

BRIEF DESCRIPTION

Certain diseases, such as Multiple Sclerosis and other autoimmune disorders, are associated with deficiencies in specific metabolites that influence protein glycosylation. This invention is a specialized method to detect levels of these metabolites, which can then be used to diagnose disorders and guide personalized treatments.

FULL DESCRIPTION

Multiple Sclerosis (MS) is a highly prevalent autoimmune disorder, affecting 400,000 people per year in the US. There is no specific test for MS, thus it is typically diagnosed by ruling out other diseases and disorders using an array of tests, including expensive or invasive procedures, such as brain imaging and lumbar punctures.

Researchers at UCI have determined that specific metabolites that are present in healthy human serum and influence protein glycosylation, including Uridine and G1cNAc, are deficient in individuals with MS, leading to dysregulation of glycosylation.

They have developed a mass spectroscopy assay to be used as a novel diagnostic test for Multiple Sclerosis. The technique assesses the composition of human serum for key metabolites associated with the disease. Unlike other diagnostic methods, this assay is noninvasive, quantitative, and highly sensitive. Furthermore, this research and assay may be applicable for the diagnosis or prevention of related disorders with underlying defective protein glycosylation.

SUGGESTED USES

- .Diagnose, identify and analyze diseases associated with glycan dysregulation: Multiple Sclerosis, Type I and Type II Diabetes, Cancer
- .Utilize methods in a clinical setting to determine disease status and efficiency of therapeutics
- .Guide treatment options and strategies
- .Monitor therapies and medications

ADVANTAGES

- Versatile diagnostic and monitoring method:
- § Can be applied to many types of glycan-related diseases and disorders to identify and quantify biomarkers
 - § Can monitor treatments that include the described and related metabolites as medications
- Efficient and accessible:
- The approach is simple, easy to perform, and produces results rapidly
 - Utilizes common lab instrumentation, liquid chromatography-mass spectrometry

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	10,495,646	12/03/2019	2014-976

