Drug Metabolite as a Non-Invasive Biomarker for Nonalcoholic Steatohepatitis (Nash)

UA ID Technology #ua18-113

Title: Drug Metabolite as a Non-Invasive Biomarker for Nonalcoholic Steatohepatitis (NASH)

Invention: This invention is a novel approach to diagnosing patients with Non-Alcoholic Steatohepatitis (NASH). Typically NASH is diagnosed through invasive liver biopsies. This technology evades the traditional risks associated with liver biopsies in favor of a diagnosis that incorporates a pill and collection of corresponding blood or urine analysis to determine the presence of NASH.

Background: Non-alcoholic Fatty Liver Disease (NAFLD) is the most prevalent chronic liver disease, affecting 25% of people worldwide and 64 million people in the United States alone. NAFLD costs the U.S. healthcare system $103 billion annually. The initial stage of NAFLD is characterized by microvesicular fat disposition. As NAFLD progresses, it can reach a more critical state called Non-Alcoholic Steatohepatitis (NASH) with greater clinical implications, including the emergence of cryptogenic cirrhosis, which develops within 30% to 50% of NASH patients within 10 years of diagnosis. Cirrhosis is the cause of 10% of liver transplants and 13% of hepatocellular carcinoma cases. Thus, the need for a reliable, non-invasive and accurate diagnostic tool is critical in relieving NASH patients from the burdens they face.

Applications:

- A biomarker that accurately non-invasively diagnoses NASH

Advantages:

- A faster, safer and less-invasive means of diagnosing NASH

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