Novel Diagnostic Analysis Method for Classification of Lupus (16029)

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Technology description

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Market Opportunities

The Lupus Foundation of America estimates that 1.5 million Americans and at least five million people worldwide, have a form of Lupus. Of those millions of people it is approximated that 90% of all cases are women, with the development of their diagnosis happening between the ages of 15-45. Lupus is an autoimmune disease that is caused by a disorder of the immune system. Systemic Lupus Erythematosus (SLE) is the most common of the four types of Lupus and considered the most serious as it can affect the kidneys, heart, lungs, brain, blood and skin. Accurately diagnosing and characterizing this form of Lupus against the other types of Lupus and other overlapping diseases represents a significant market need that this technology has the potential to address. Additionally, initial testing has suggested that with further development, this technology could be used to diagnose Lupus in its earlier stages. The UofL diagnostic approach can be generally applied to other disease settings, thus increasing its market potential.

Technology

This technology aims to meet the market need by coupling DSC measures with diagnostic analysis methods for the classification of lupus patients. Differential scanning calorimetry (DSC) is a tool used to measure stability profiles of complex molecular interactions in biological fluids. DSC should provide the necessary data to characterize Lupus diseases by analyzing the changes in the patient’s biological fluids. Laboratory testing has shown that the high sensitivity to DSC bio-fluid profiles could reflect modified thermal stability involving disease biomarkers. This technology will incorporate these DSC measures and additional classification algorithms. This may lead to a more accurate and faster approach to Lupus disease diagnosis and characterization. The successful development of this

application may also lead to the detection of Lupus diseases at earlier stages of the disease than standard clinical testing.

Garbett and Brock, Biochim. Biophys. Acta, 2016, 1860 (5): 981-989.

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Application area

Fields of Use Available : all

Advantages

Features and Benefits

May function as a superior Lupus diagnostic and characterization method

Uses differential scanning calorimetry (DSC); a simple and highly accurate diagnostic approach along with performance algorithms

Potential to diagnose Lupus at earlier stage with further development

This Technology is available for licensing, further development, or industrial partnering

Institution

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