Transforming Lupus Nephritis Diagnostics with a Novel Biomarker Technology

Lupus Nephritis (LN), a severe complication of Systemic Lupus Erythematosus (SLE), affects up to 50% of patients and is a leading cause of morbidity and mortality. Early diagnosis and targeted treatment of LN are critical for improving patient outcomes, but there remain significant challenges due to limitations in current diagnostic methods.

Category

In vitro Diagnostics

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Business Opportunity

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The global autoimmune diagnostics market, projected to exceed $10 billion by 2027, highlights a growing unmet clinical need. Our novel diagnostic test addresses this gap by advancing precision medicine for SLE and LN. It offers significant value to healthcare providers, patients, and pharmaceutical developers focused on LN-specific therapies. Beyond its diagnostic accuracy, the biomarker enables transformative applications in both clinical and at-home settings. For instance, a urine-based self-testing kit, such as a lateral flow immunoassay, could allow patients to detect early kidney involvement independently. Positive results would prompt timely clinical follow-ups for confirmation and treatment. This integrated, patient-centered approach minimizes reliance on invasive biopsies, accelerates diagnosis, and improves overall patient care. The biomarker has already been validated in >500 patient samples, demonstrating reproducible performance across both plasma and urine.

Inven2 seeks partners for co-development or licensees of technology.

Technology Description

Our innovation is a protein-based diagnostic method for LN, utilizing the detection of a novel protein biomarker in either plasma or urine samples. This cutting-edge biomarker technology is designed to accurately predict the likelihood of an LN flare-up in patients with SLE, ensuring earlier intervention and improved disease management.

The test is non-invasive, cost-effective, and highly adaptable for integration into clinical workflows, providing a significant advantage over existing diagnostic tools that lack specificity or sensitivity for LN. Unlike conventional markers such as proteinuria, complement levels or dsDNA our biomarker shows superior specificity for active glomerular inflammation, giving it a clear competitive edge.

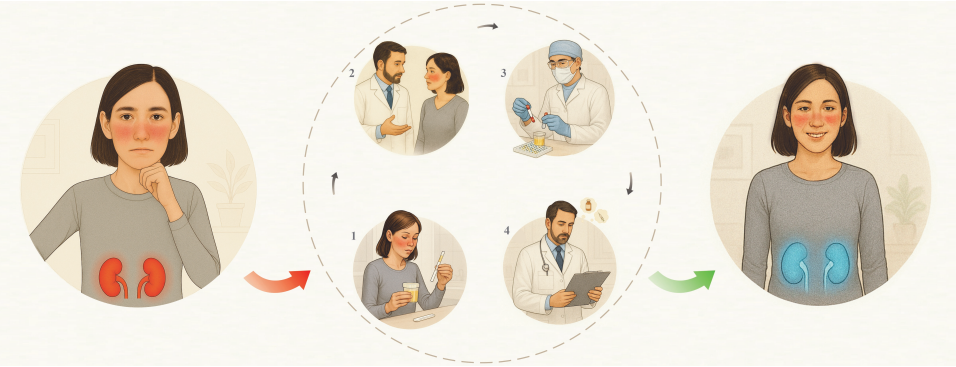

Figure 1. Illustration of the clinical value of a less invasive and more accurate diagnostic tool for LN, compared to renal biopsy. Due to the invasiveness and sampling limitations of biopsy, better diagnostic approaches are needed to improve patient care.

Intellectual Property

A patent application is pending.