

AlloDx Unveils SuperNAT Platform: Breakthrough in Nephrin Antibody Detection for Podocyte Disease

The SuperNAT demonstrates 48.6% higher sensitivity than conventional ELISA, with its clinical validation data accepted for poster at ASN Kidney Week 2025.

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EINPresswire.com/ -- [AlloDx](#), a pioneer in precision renal diagnostics from Shanghai, announced that clinical validation data for its proprietary SuperNAT (Super Nephrin Antibody Trap) technology platform had been accepted for poster presentation at the American Society of Nephrology's Kidney Week 2025 (ASN Kidney Week), with abstract DOI: 10.1681/ASN.2025j525v94y. The SuperNAT platform addresses longstanding challenges in detecting Nephrin autoantibodies—a critical biomarker for podocyte-related kidney diseases, including minimal change disease (MCD) and focal segmental glomerulosclerosis (FSGS).



Dual-Innovation Strategy Enhances Diagnostic Precision

SuperNAT integrates two proprietary innovations to address key challenges in antibody detection:

- Magnetic bead antigen capture – Isolates Nephrin antibodies with high specificity
- Background subtraction algorithm – Eliminates interference from rheumatoid factor and heterophilic antibodies in complex serum matrices

The platform achieves an unprecedented detection limit of 3 U/mL while maintaining >95% accuracy in high-interference samples. In clinical validation involving 40 patient samples:

- Antibody levels were 6.5× higher in patients vs. healthy controls (59.71 U/mL vs. 9.22 U/mL; $p < 0.0001$)

- 55% of patients tested positive at the 34 U/mL threshold – 48.6% higher sensitivity than conventional ELISA
- Two novel immunogenic epitopes (15 aa–29 aa and 778 aa–793 aa) were identified, revealing new insights into disease pathogenesis

Commercialization and IP Advancement

The SuperNAT platform demonstrates robust performance metrics:

- Sample stability: ≤7% quantitative variation within 30 days
- Full compatibility with automated laboratory systems
- Patent-pending diagnostic kit (CN Patent No. 202511390182.2)

The company is now accepting clinical partnerships for multi-center validation studies.

About AlloDx

Founded in August 2018, Shanghai AlloDx Biotech Co., Ltd. is a pioneering biotechnology company headquartered in Shanghai, China, dedicated to next-generation diagnostic solutions with focused expertise in organ transplantation and kidney diseases. The company operates a fully integrated R&D and innovation center that spans the entire diagnostic development continuum—from biomarker discovery and assay design to clinical validation and commercialization.

AlloDx's flagship product, Allok seq®, leverages donor-derived cell-free DNA (dd-cfDNA) technology to enable non-invasive detection of graft injury and is widely adopted by transplant centers across China. In nephrology diagnostics, the company offers SuperNAT™, a second-generation, high-sensitivity nephrin antibody assay, and the UltraNAT® Nephrin Antibody Detection Kit, providing clinicians with precise tools for early detection and monitoring of podocyte-related kidney disorders. Additionally, PodoArray-6™ simultaneously detects six podocyte-associated autoantibodies, while AADT-PEA enables multiplex quantification of 12 key complement system factors—delivering comprehensive insights into complex immune-mediated renal diseases.

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