LarmorBio Presents New Research at ENDO on the Ability of MMR Technology to Assess Cardiometabolic Disease Risk

BOSTON, MA, UNITED STATES, July 14, 2025 /EINPresswire.com/ -- LarmorBio today announced the presentation of three groundbreaking studies at the U.S. Endocrine Society (ENDO) 2025 conference, showcasing the power of its proprietary microscale magnetic resonance (MMR) technology in profiling oxidative stress (OS) as a sensitive, non-invasive biomarker for early detection, monitoring, and risk stratification of cardiometabolic diseases. The data span across diverse populations—from healthy individuals to those at high risk—highlighting MMR's clinical utility as a point-of-care (POC) tool for personalized metabolic health management. Below is a summary of the three abstracts presented at the conference:

Microscale Magnetic Resonance Profiling of Plasma Oxidative Stress (OS) Reveals Early Metabolic Dysfunction in Normoglycemic and Prediabetic Individuals:

In a study led by LarmorBio and a major U.S. reference laboratory, researchers used MMR to assess plasma OS in 46 non-diabetic men. The results revealed significantly elevated OS levels in individuals with metabolic abnormalities—even those with normal HbA1c but elevated BMI or insulin resistance. Prediabetic individuals showed the highest OS levels, pointing to MMR's ability to detect subclinical metabolic dysfunction well before standard diagnostic thresholds. These findings support OS as a promising early-stage biomarker for identifying individuals at risk for Type 2 diabetes and related conditions, enabling earlier lifestyle and therapeutic interventions.

Point-of-care Microscale Magnetic Resonance Effectively Monitors Oxidative Stress Mitigation In Preconception Women with Obesity Undergoing Digital Health Intervention :

In collaboration with the HELMS study in Singapore, LarmorBio researchers tracked oxidative stress in 54 women with obesity during a 12-month digital health intervention designed to improve preconception metabolic health. MMR revealed a statistically significant 11% reduction in oxidative stress from baseline to one year, despite no significant changes in conventional biomarkers such as BMI, cholesterol, or HbA1c. The OS biomarker also correlated with hematological and metabolic indicators, including insulin resistance and body fat. This study underscores MMR's value as a dynamic, real-time monitor of physiological changes in response to lifestyle and digital health interventions.

Point-of-Care Oxidative Stress Profiling Reveals Distinct Inflammatory Subgroups in Subjects with

Cardiometabolic Risks:

A third study conducted as part of the large-scale Predict to Prevent (P2P) prospective trial in Singapore used MMR to profile 350 patients with cardiometabolic risk factors, including obesity, hypertension, diabetes, and early-stage kidney disease. Compared to healthy controls, patients had a 23.8% higher OS level, which correlated significantly with key markers such as HbA1c, high-sensitivity C-reactive protein (hsCRP), fasting glucose, and arterial stiffness. Notably, OS profiling uncovered distinct inflammatory subgroups even in patients with low hsCRP, revealing at-risk individuals that conventional markers may miss. These results highlight the potential of MMR to redefine risk stratification and personalize care in complex cardiometabolic conditions.

“We are excited by the groundbreaking data presented at ENDO which builds upon previous data demonstrating the importance of oxidative stress as an independent biomarker in assessing chronic disease risk,” said Rodolfo Rohr, CEO of LarmorBio. “The ability to provide an early warning system into chronic and acute disease progression has the potential to allow care givers to provide early intervention to patients improving outcomes and lowering total healthcare costs.”

“The data we have presented at ENDO shows the potential independent value of oxidative stress as an early warning signal for chronic disease progression and treatment response,” said said Michael J. McPhaul, M.D., Chief Medical Officer at LarmorBio. “We are excited to continue to work with our research collaborators to further the science around this important biomarker.”

About LarmorBio:
LarmorBio is a pioneering life science research and clinical diagnostic company that has developed a microscale magnetic resonance technology for measuring critical biological data in blood and cell samples. The primary application of the technology is the ability to measure oxidative stress levels in blood which plays a critical role in early metabolic dysregulation and chronic disease progression. Prior to LarmorBio’s MarlinMR’s platform, no technology could directly measure oxidative stress in under five minutes at low cost by an untrained user at the point of care. The company currently has deployed the system globally in partnership with major research hospitals and leading healthcare companies and has 15 peer-reviewed publications supporting the system’s clinical utility.

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