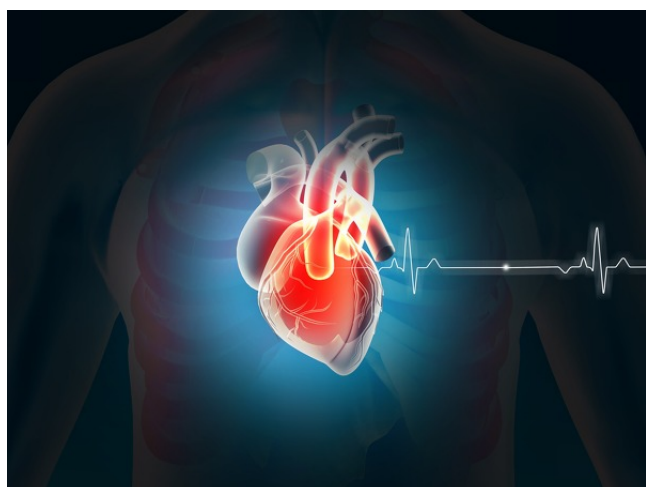# 12-HETE as a Diagnostic Tool for Early Detection of Cardiovascular and Thrombotic Risk (Accelerate Blue)

TECHNOLOGY NUMBER: 2021-106

Technology ID
2021-106

Category
Diagnostics
Life Sciences
Accelerate Blue Foundry - 2025/Life Sciences

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Accelerate Blue Foundry - 2025 (Life Sciences)

OVERVIEW

A new blood test leverages specific lipid biomarkers to provide earlier and more sensitive detection and monitoring of thrombotic cardiovascular disease risk and response to therapy, offering better prediction than current standards like the D-dimer test. Core features include quantitative biomarker tracking before and after treatment, improved ability to guide therapy choices, and applicability across high-risk and diagnosed patient populations.

DESCRIPTION

This technology involves measuring the levels of specific molecules—12-HETE and 13-HODE—in plasma samples from patients before and after they receive treatment for cardiovascular conditions, such as thrombosis (the formation of dangerous blood clots). By comparing these biomarker levels before and after therapy, clinicians can determine if the treatment is working more effectively than with current methods. Crucially, high levels of these lipid-derived molecules indicate a higher risk or the presence of thrombosis, and their decrease signals successful therapeutic intervention. Unlike older tests, this approach pinpoints relevant biological changes quicker and more precisely, giving more actionable, patient-specific information about treatment response and thrombotic risk.

VALUE PROPOSITION

- **Higher Sensitivity**: Detects cardiac thrombotic states and treatment response earlier and more accurately than current standard biomarkers (like D-dimer).
- **Personalized Treatment Guidance**: Enables real-time monitoring and optimization of therapies for cardiovascular disease, supporting precision medicine for high-risk patients.
- **Broad Utility Across Therapies**: Works with numerous cardiovascular drugs and can be used for both diagnosed patients and those at risk, expanding clinical applications and market reach.

TECHNOLOGY READINESS LEVEL
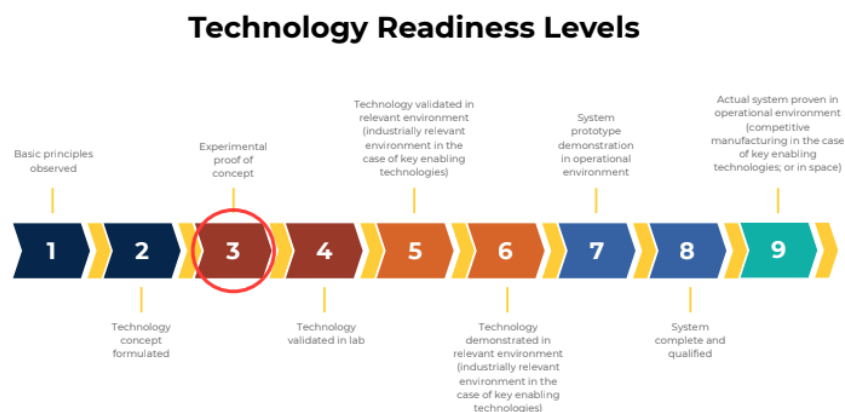
INTELLECTUAL PROPERTY STATUS

Patent applications pending.

MARKET OPPORTUNITY

With cardiovascular disease remaining the leading cause of death globally, hospitals, diagnostic labs, and pharmaceutical companies urgently need more precise tools for risk assessment and therapy monitoring in thrombosis. This technology addresses unmet demands for personalized medicine and improved outcomes in high-value settings like cardiac care, anticoagulation clinics, and drug development. Clinical adoption could substantially reduce costs associated with adverse events, ineffective treatments, and hospital readmissions.

Recent studies highlight that current biomarkers often fail to predict thrombotic risk early enough, driving robust demand for next-generation diagnostics.

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