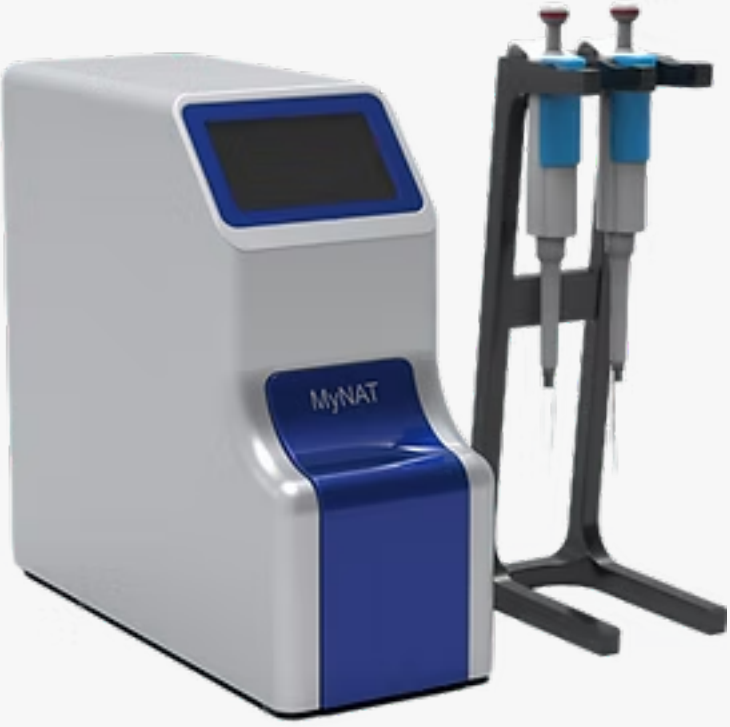
OnsiteGene Unveils myNAT™ PCR Platform for Faster, Accurate Multiplex Testing

OnsiteGene introduces myNAT™, a sealed-cartridge PCR system delivering flexible, sample-to-answer molecular diagnostics with precision.



myNAT™ Sample-to-Answer Open Panel PCR Instrument

LOS ALTOS, CA, UNITED STATES, September 11, 2025 /EINPresswire.com/ -- OnsiteGene Inc. has published a comprehensive review of its myNAT™ Sample-to-Answer Open-Panel PCR Instrument, showcasing the system's innovative design, functionality, certifications, and potential applications across clinical, public health, environmental, and agricultural domains.

Introduction

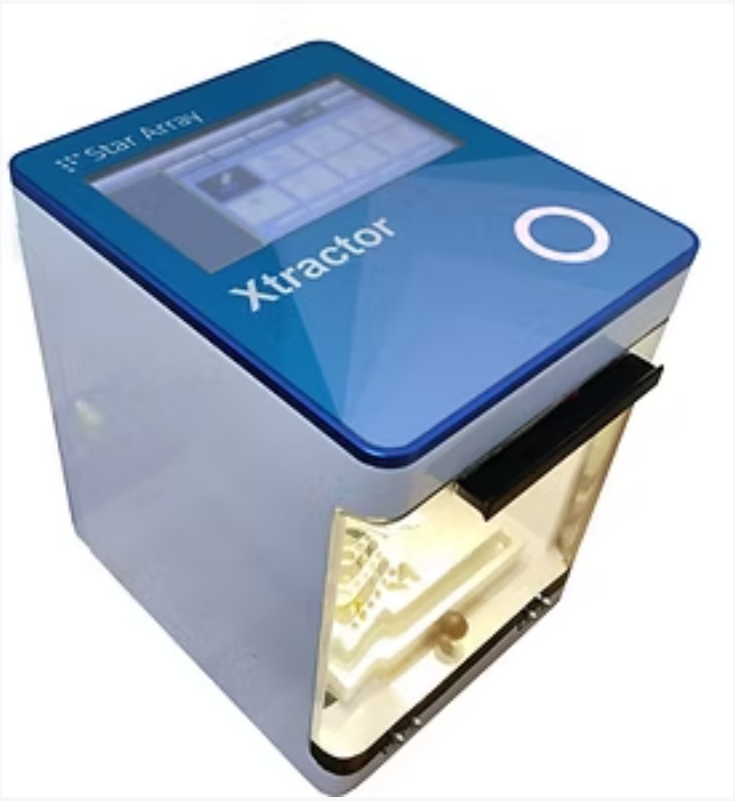
OnsiteGene Inc., a biotechnology company specializing in molecular diagnostics, has provided an in-depth technical review of its myNAT™ Sample-to-Answer Open-Panel PCR Instrument. The review outlines the instrument's ability to automate nucleic acid extraction and multiplex real-time PCR within a sealed cartridge, minimizing manual steps and contamination risk. The review also highlights throughput configurations, optical design, supported sample types, and intended uses in decentralized and resource-limited settings.

System Overview

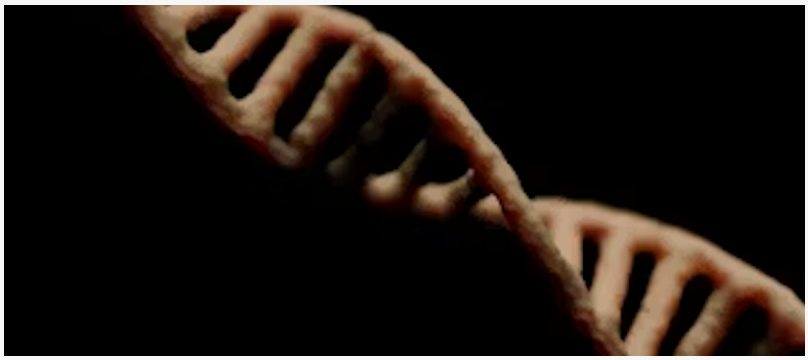
The myNAT™ platform combines sample preparation, amplification, detection, and reporting in a single, portable instrument. The device is designed to deliver results within approximately 35 minutes, depending on the panel configuration.

Unlike closed molecular panels limited to proprietary assays, myNAT™ is an open-panel system,

allowing laboratories to load their own reagents and develop custom panels for specific pathogens or genes of interest. This flexibility distinguishes it from many existing syndromic testing platforms.



Xtractor™ Instrument


5-minute real-time PCR

Workflow Architecture

The review emphasizes that myNAT™ consolidates conventional multi-room workflows into a sealed-cartridge process:

• Sample is introduced into the iCard cartridge.
• Cartridge is placed into the instrument.
• Automated magnetic bead extraction is performed.
• Multiplex PCR is executed using up to five optical channels.
• Results are displayed on the integrated touchscreen.

This closed workflow eliminates the need for dedicated lab spaces and reduces cross-contamination risks, making the instrument suitable for environments without dedicated molecular laboratory infrastructure.

Configurations and Scalability

The platform is available in several models:

• myNAT-1 – processes a single sample, supporting up to 16 or 20 targets per run.
• myNAT-8 – processes 8 samples simultaneously, with 4 to 5 targets per sample.
• Model-1G – links up to 16 myNAT-1 units for up to 16-sample parallel, random-access testing.
• Model-8G – links up to 8 myNAT-8 units for up to 64 samples per batch.

This modular design enables laboratories to expand capacity without transitioning to large, centralized analyzers.

Technical Specifications

• Sample-to-answer time: ~35 minutes
• Targets per run: up to 16/20, expandable to 40 with additional tubes
• Optical channels: FAM™, HEX™, ROX™, Cy5™; optional Cy5.5™
• Reaction volumes: 100–500 µL
• Sample types: swabs, saliva, sputum, blood, urine, feces, tissue
• Reagent stability: dried reagents, room temperature, 12-month shelf life
• Instrument weight: 7.6 kg (myNAT-1); 18 kg (myNAT-8)
• Power: 100–240 V AC, 50/60 Hz


test tube

Applications

OnsiteGene identifies a broad set of potential applications for myNAT™:

• Clinical diagnostics: respiratory panels, gastrointestinal panels, antimicrobial resistance detection.
• Public health surveillance: outbreak response, school-based testing, community screening.
• Environmental monitoring: water quality, air quality, contamination tracking.
• Food and agriculture: pathogen detection in supply chains, GMO verification.
• Veterinary medicine: animal pathogen diagnostics in clinics and farms.
• Customs and quarantine: rapid testing at borders to detect biosecurity threats.

The instrument's open-panel capability allows laboratories to adapt to evolving epidemiological demands and regulatory requirements.

Quality and Certifications

OnsiteGene manufactures myNAT™ instruments under an ISO 13485–audited quality management system. The devices carry EN61010 safety and EN61326 electromagnetic compatibility certifications.

The company's broader technology portfolio, including the XDive™ ultra-fast PCR platform, has previously received FDA Emergency Use Authorizations (EUAs) for specific COVID-19 and

Monkeypox assays. While those EUAs do not extend to myNAT™, they demonstrate OnsiteGene's established presence in the regulated diagnostics sector.

Data Handling and Software

myNAT™ platform has Built-in data analysis software. For facilities requiring integration with Laboratory Information Systems (LIS), OnsiteGene advises assessing export formats and security policies.

Comparative Advantages

The myNAT™ system offers several distinct benefits compared to conventional and closed-platform alternatives:

• myNAT™ Combines contamination control, operational flexibility, and modular scalability in a single platform.
• Compact and Portable: Weighing only 7.6 kg (myNAT-1) and 18 kg (myNAT-8), the system is easy to deploy anywhere.
• Fully Automated and Sealed Workflow: The integrated iCard cartridge enables contamination-free processing from sample input to result.
• High Flexibility: Supports 1–20 targets per sample (expandable to 40 targets) across four optical channels, with options for custom panel configuration.
• Cost-Effective: Low-cost cartridges and room-temperature-stable dried reagents reduce operational and storage expenses.
• Scalable Design: Modular configurations allow random-access testing from 1 to 64 samples per batch.
• Broad Sample Compatibility: Accepts swabs, saliva, sputum, blood, urine, feces, and tissue.
• Rapid Results: Sample-to-answer time of ~35 minutes.
• Compliant and Certified: Manufactured under ISO 13485, with EN61010 and EN61326 certifications.

This combination positions myNAT™ as a middle ground between high-volume centralized analyzers and limited closed-cartridge platforms.

Cost Management

OnsiteGene's documentation emphasizes low-cost sealed cartridges and room-temperature dried reagents to simplify logistics and reduce storage costs. While specific pricing is not disclosed, the company states that the consumable design is intended to support cost-efficient testing in high-volume and resource-limited environments.

Delivery and Availability

The review notes a delivery lead time of approximately four weeks. Organizations may request quotations and demonstrations through OnsiteGene's official order page.

Summary

The review concludes that myNAT™ is a flexible, sealed-cartridge PCR instrument suited for decentralized, cross-sector molecular diagnostics. By combining customizable panels, automated extraction, and contamination control within a portable device, the system is intended to meet the needs of laboratories in clinical, environmental, and agricultural contexts.

About OnsiteGene Inc.

OnsiteGene Inc. is a biotechnology company focused on developing rapid molecular diagnostics platforms for clinical, environmental, and agricultural use. Its portfolio includes the XDive™ ultra-fast PCR instrument Xtractor™ 5-minute Nucleic Acid Extractor and the myNAT™ sample-to-answer open-panel system. OnsiteGene manufactures its products under an ISO 13485–audited quality management system and maintains internationally recognized safety and electromagnetic compatibility certifications.

Headquartered in Los Altos, California, OnsiteGene continues to support laboratories worldwide with adaptable, scalable, and reliable molecular solutions.

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