REVEALR Technology for Viral Detection

Tech ID: 34033 / UC Case 2021-789-0

BRIEF DESCRIPTION

A novel diagnostic technology offering rapid, accurate, and inexpensive detection, genotyping, and quantification of viral RNA in patient-derived samples, enhancing public health capabilities.

FULL DESCRIPTION

REVEALR technology is a cutting-edge diagnostic tool that employs isothermal amplification strategies, specifically designed to address the limitations of traditional qRT-PCR methods in viral detection. Utilizing a unique sequence-specific detection modality, this technology can accurately identify, genotype, and quantify viral RNA signatures in patient-derived samples. This approach allows for the conversion of viral genomes into detectable signals, observable via fluorescence or lateral flow devices, facilitating rapid and precise point-of-care diagnostics.

SUGGESTED USES

- Routine disease diagnosis in clinical settings.
- Point-of-care testing in remote or resource-limited locations.
- Public health surveillance and epidemic response.
- Genotyping for personalized medicine applications, including cancer and infectious disease management.

ADVANTAGES

- Rapid detection of viral RNA in less than one hour.
- High sensitivity with attomolar detection capabilities.
- High specificity, reducing the risk of false positives through sequence-specific detection.
- Field deployable, offering significant advantages for public health surveillance.
- Versatile, with the potential for detecting a wide range of viral and bacterial pathogens, as well as genotyping human diseases.

PATENT STATUS

Patent Pending

RELATED MATERIALS

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OTHER INFORMATION

KEYWORDS

DNAzyme, REVEALR, RNA diagnostics, SARS CoV 2, acute respiratory infection, influenza A, influenza B, respiratory virus

CATEGORIZED AS

- **Biotechnology**
  - Health
- **Medical**
  - Diagnostics
  - Disease: Infectious Diseases
  - Screening
- **Sensors & Instrumentation**
  - Medical

» Schuder DN, Lu ND, Chaput JC. Revealr-Based Diagnostic Panel for Rapid Detection of Acute Respiratory Infections. ACS Synth Biol. 2024 Dec 20;13(12):4202-4208. doi: 10.1021/acssynbio.4c00644. Epub 2024 Dec 4. PMID: 39630957.

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