Methods To Rapidly Measure Antibodies And Other Biomolecules In Clinical Specimens Utilizing Biolayer Interferometry

Tech ID: 32805 / UC Case 2021-571-0

BACKGROUND

The rapid spread of SARS-CoV-2 and associated declaration of a global pandemic in 2020 underscore the importance of rapid and accurate infectious disease testing. Serological tests, which facilitate vaccine development and identification of population spread, are commonly used as countermeasures to infection. Existing serological testing methods, like lateral flow immunoassays, are not quantitative and reliably sensitive though. Other immunoassays have better sensitivity and specificity but require long incubation times and are labor-intensive.

TECHNOLOGY DESCRIPTION

A UC Santa Cruz researcher has developed a testing method that uses biolayer interferometry to detect biomolecules in serum. Single-use biosensors are automated in “dip and read” formats that are able to provide real-time optical measurements of antigen loading, plasma antibody binding, and antibody isotype detection in under 20 minutes. These tests eliminate long wait times and labor requirements common to other immunoassays while maintaining high sensitivity and specificity.

APPLICATIONS

Point-of-care antibody serological testing

ADVANTAGES

- Simple and shelf-stable
- Rapid with results in under 20 minutes
- Small sample volumes needed
- Quantitative results
- Works on an existing platform

INTELLECTUAL PROPERTY INFORMATION

Country	Type	Number	Dated	Case
Patent Cooperation Treaty	Reference for National Filings	WO 2022/015917	01/20/2022	2021-571

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INVENTORS

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OTHER INFORMATION

KEYWORDS

Biosensor, Rapid Diagnostic, SARS-CoV-2, Immunosorbent Assay, BLI-ISA, Octet RED384, Biolayer Interferometry

CATEGORIZED AS

- **Biotechnology**
  - Health
- **Medical**
  - Diagnostics
  - Disease: Infectious Diseases

RELATED CASES

2021-571-0

Patent Pending

RELATED MATERIALS

- Rapid and sensitive detection of SARS-CoV-2 antibodies by biolayer interferometry - 12/10/2020

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Methods For Production Of The Porcine Astrovirus 4 Capsid Spike Antigen And Its Use In Serological Assays And Vaccines
- Glycoengineering Of The Foldon Protein Trimerization Domain To Shield It From Antibody Immune Responses
- Human Astrovirus Neutralizing Monoclonal Antibody Sequences
- Simplified Workflow For Hybridoma Antibody Sequencing

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