BIOSENSOR DETECTION ASSAY FOR ANTI-SARS-COV-2 ANTIBODIES

Tech ID: 32843 / UC Case 2021-002-0

CONTACT

Gemma E. Rooney
Gemma.Rooney@ucsf.edu
tel: 415-625-9093.

OTHER INFORMATION

KEYWORDS

Antibody, Biosensor system,

Epitope Shield

CATEGORIZED AS

- Medical
  - Diagnostics
  - Disease: Infectious Diseases

RELATED CASES

2021-002-0

INVENTION NOVELTY

Researchers at UCSF and the Chan Zuckerberg Biohub have developed a serological detection assay for anti-SARS-CoV-2 antibodies.

VALUE PROPOSITION

- Sensitive, rapid and modular solution-based detection of patient anti-SARS-CoV-2 antibodies
- S and N biosensors remain functional after lyophilization and can be used in combination
- May be adapted for detecting antibodies against a broad range of other viral or bacterial antigens

TECHNOLOGY DESCRIPTION

COVID-19, caused by the SARS-CoV-2 virus, has spread throughout the world. Early detection of disease using viral detection assays is critical for containing the spread of this virus. The most widely used tests are PCR-based, which detect viral RNA in patient samples. However, these methods are limited in throughput and take hours or days to produce results.

APPLICATION

- Clinical or point-of-care detection of antibodies (IgG and IgM) against viral antigens in patient samples
- Epitope mapping or assaying neutralization potency of patient sera

STAGE OF DEVELOPMENT

The inventors have developed a sensitive and rapid solution-based protein biosensor serology assay for anti-SARS-CoV-2 antibodies. The protein biosensor comprises a pair of fusion proteins that are used together to detect antibodies against various SAR-CoV-2 antigens. Each fusion protein of the pair contains a viral protein domain and a detection moiety domain, and the detection moieties are complementary portions of a split reporter. The inventors demonstrate the effectiveness of two anti-SARS-CoV-2 biosensors, capable of detecting patient antibodies against viral Spike (S) or nucleocapsid (N) proteins.

RELATED MATERIALS

- Engineering luminescent biosensors for point-of-care SARS-CoV-2 antibody detection - 03/25/2021

PATENT STATUS

Patent Pending

ADDRESS

UCSF

Innovation Ventures

600 16th St, Genentech Hall, S-272,

San Francisco,CA 94158

CONTACT

Tel:

innovation@ucsf.edu

https://innovation.ucsf.edu

Fax: