

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

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## CONTACT

Gemma E. Rooney

[Gemma.Rooney@ucsf.edu](mailto: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 SARS-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](mailto:innovation@ucsf.edu)

<https://innovation.ucsf.edu>

Fax:

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