Platelia anti-SARS-CoV-2 S IgG Quant

Quantitative determination of anti-spike IgG antibodies against SARS-CoV-2
Aids in Diagnosis & Monitors Adaptive Immune Response

Platelia anti-SARS-CoV-2 S IgG Quant

The Platelia anti-SARS-CoV-2 S IgG Quant is an immunoassay for the quantitative determination of anti-spike IgG antibodies to SARS-CoV-2. This assay is crucial for detecting the presence of IgG antibodies, including neutralizing antibodies, to SARS-CoV-2. The Platelia anti-SARS-CoV-2 S IgG Quant can be used in identifying individuals with an adaptive immune response to SARS-CoV-2 indicating prior infection. In addition, it can be used for monitoring antibody responses against SARS-CoV-2 following COVID-19 vaccination with vaccines that specifically generate anti-spike immune responses.

Sensitive Detection of Anti-Spike IgG Antibodies

Of the four SARS-CoV-2 structural proteins including the S (spike), E (envelope), M (membrane), and N (nucleocapsid), the whole spike protein (S1 with its RBD and the S2) is the primary target of neutralizing antibodies detected by the Platelia anti-SARS-CoV-2 S IgG Quant assay.

The assay, designed to detect IgG antibodies targeting the trimeric form of the spike protein, provides sensitive antibody detection with strong correlation to plaque reduction neutralization tests, or PRNT, which helps to measure virus-specific neutralizing antibody titers.

Accurate and Reliable Quantification of Anti-Spike IgG Antibodies to Monitor Immune Responses

The Platelia anti-SARS-CoV-2 assay provides quantitative results in BAU/mL, calibrated to the WHO International Standard. This assay provides standardized quantitative values for:

- Comparing results across laboratories and reducing interlaboratory variations
- Monitoring changes in patients’ immune responses following SARS-CoV-2 infection or COVID-19 vaccination
**Humoral Response to SARS-CoV-2**

Upon infection with SARS-CoV-2, a patient mounts an immune response against the virus, producing specific antibodies (IgA, IgM, and IgG) against viral epitopes. IgM and IgA antibodies peak at 2–3 weeks post-symptom onset (PSO) before declining and IgG antibodies remain detectable for several months PSO. The Platelia anti-SARS-CoV-2 S IgG Quant specifically detects IgG antibodies that persist and is ideal for longitudinal analysis of the immune response.

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**Science Review**

**Neutralizing Antibodies Target the SARS-CoV-2 Spike Protein**

In late 2020, the first COVID-19 vaccines to specifically induce anti-spike immune responses were commercialized and used in global vaccination campaigns. To date, the spike protein and its receptor binding domain (RBD) are the most common targets used in COVID-19 vaccines for generating neutralizing IgG antibodies and inducing a T-cell response for protective immunity. COVID-19 vaccines based on generating neutralizing anti-spike antibodies can help protect against viral infection since the spike protein functions to infect cells. The RBD of the S1 subunit recognizes and attaches to cell receptors while the S2 subunit mediates viral cell membrane fusion to penetrate cells.}

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**Mechanism of Action: Anti-Spike Neutralizing Antibodies**

SARS-CoV-2 enters a host cell through an interaction between the spike protein of the virus and the ACE-2 receptor on the host cell.
A Complete COVID-19 Offer

We make the tools. You’ll win the fight.

Diagnosis | Confirmation | Surveillance | Therapies

The Platelia SARS-CoV-2 S IgG Quant complements Bio-Rad’s first COVID-19 total antibody assay launched in early 2020 designed to screen for total anti-nucleocapsid antibodies IgM, IgA, and IgG against coronavirus SARS-CoV-2. Both Total Ab and IgG detection can be used for patient surveillance and notably for seroprevalence studies.

The assays add to the larger portfolio of SARS-CoV-2 testing and research solutions including our RT-qPCR solutions, RDT Ag assay, and SARS-CoV-2 standards for COVID-19 research along with our ddPCR systems and FDA EUA SARS-CoV-2 ddPCR kit.
Performance You Expect

Platelia anti-SARS-CoV-2 S IgG Quant Assay

The assay provides accurate and standardized quantitative results crucial for patient management and COVID-19 vaccine next steps. It measures antibody concentrations between 13 and 500 BAU/mL with an extended measuring interval of 500–10,000 BAU/mL.*

*Specimens with high levels of anti-spike IgG antibodies above the measuring interval can be diluted 1:20.

High Specificity
>99.7%
Blood donors and hospitalized patients
(1,036 specimens tested)

No Cross-Reactivity
On most common respiratory viruses
(114 specimens tested)

High Sensitivity*
(Post Onset of Symptoms)

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<th>Positive specimens</th>
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<th>PPA</th>
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15 BAU/mL Assay Cutoff
Ensuring a high level of sensitivity with early detection of IgG seroconversion

Detects Variants of Concern
(Alpha, Beta, Gamma, Delta)
>15 days after positive RT-PCR
(38 specimens tested)

99% Correlation
With Plaque Reduction Neutralization Test
(99 samples tested)

Longitudinal Monitoring of Antibody Response to COVID-19 Vaccines Over Time

Antibody measurement using the quantitative Platelia anti-SARS-CoV-2 S IgG assay is important in improving patient care management and learning how the immune response develops and persists in individuals vaccinated or infected with COVID-19.

Kinetics of SARS-CoV-2 Anti-Spike IgG Antibodies After Vaccination with the Moderna mRNA-1273 COVID-19 Vaccine

Longitudinal Monitoring of the Antibody Response Following the Pfizer-BioNTech COVID-19 Vaccine

Note: The median titer of samples >10,000 were plotted at 10,000.

Quantitative measurement with the Platelia anti-SARS-CoV-2 S IgG provides aggregated data to researchers and clinicians to better understand immune response amongst population groups.

The assay detects anti-SARS-CoV-2 spike IgG antibodies before and after administration of the Pfizer-BioNTech COVID-19 vaccine doses in longitudinal samples from 10 individuals showing important inter-individual variability in antibody responses.
Platelia anti-SARS-CoV-2 S IgG Quant Assay

The Platelia anti-SARS-CoV-2 S IgG Quant assay can be used as an aid in identifying individuals with an adaptive immune response to SARS-CoV-2 indicating prior infection. It also provides a more complete understanding of antibody responses following vaccination with vaccines that specifically generate anti-spike immune responses.

Indirect ELISA Format

This quantitative immunoassay (BAU/mL) uses a simple two-step protocol for the detection of IgG antibodies to the SARS-CoV-2 spike protein.

REFERENCE

Ordering Information

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<td>12016414</td>
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