Overview

Useful For
Aiding in identifying individuals with an adaptive immune response to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), indicating recent or prior infection

Highlights
This test provides qualitative detection of serum antibodies against the nucleocapsid protein of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the causative agent of coronavirus disease 2019 (COVID-19).

This test will not yield a positive result following vaccination against SARS-CoV-2.

This test is intended for use as an aid in identifying individuals with an adaptive immune response to SARS-CoV-2, indicating recent or prior infection.

Fact sheets for this emergency use authorization (EUA) assay can be found at the following links:

For healthcare providers: www.fda.gov/media/137603/download

For patients: www.fda.gov/media/137604/download

Method Name
Chemiluminescence Immunoassay (CIA)

NY State Available
No

Specimen

Specimen Type
Serum

Ordering Guidance
Molecular testing is recommended for diagnosis of coronavirus disease 2019 (COVID-19) in symptomatic patients. For more information see:

- COVOO / Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) RNA Detection, Varies
- CVOOA/Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) RNA Detection, Varies
- RSARS / Severe Acute Respiratory Syndrome Coronavirus 2 (SARS CoV-2), Molecular Detection, Rapid, Varies
- SCOV2 / Severe Acute Respiratory Syndrome Coronavirus 2 (SARS CoV-2), Molecular Detection, Varies

For the most up-to-date COVID-19 epidemiology and testing recommendations, visit www.cdc.gov/coronavirus/2019-ncov/index.html

Necessary Information
1. Patient's race and ethnicity, as well as collection date, are required.
2. If ordering electronically, answers must be provided for the order entry questions.

3. If not ordering electronically, patient race and ethnicity must be provided on the request form.

**Specimen Required**

**Container/Tube:**

- **Preferred:** Serum gel
- **Acceptable:** Red top

**Specimen Volume:** 0.6 mL

**Collection Instructions:** Centrifuge and aliquot serum within 2 hours of collection.

**Specimen Minimum Volume**

0.5 mL

**Reject Due To**

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
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<tbody>
<tr>
<td>Gross lipemia</td>
<td>Reject</td>
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<tr>
<td>Gross icterus</td>
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**Specimen Stability Information**

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<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
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<tbody>
<tr>
<td>Serum</td>
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<tr>
<td></td>
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<tr>
<td></td>
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**Clinical and Interpretive**

**Clinical Information**

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is an enveloped, single-stranded RNA virus of the family Coronaviridae, genus Betacoronavirus. All coronaviruses share similarities in the organization and expression of their genome, which encodes 16 nonstructural proteins and the 4 structural proteins: spike (S), envelope (E), membrane (M), and nucleocapsid (N).

Results are for the detection of SARS-CoV-2 antibodies. Antibodies to SARS-CoV-2 are generally detectable in blood several days after initial infection; although the duration of time antibodies are present postinfection is not well characterized. Patients may have detectable virus present for several weeks following seroconversion.

**Reference Values**

Negative

**Interpretation**
Negative:

No antibodies to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) detected. Negative results may occur in serum collected too soon following infection, in patients who are immunosuppressed, or in patients with mild or asymptomatic infection. This test does not rule out active or recent coronavirus disease 2019 (COVID-19) and will not detect SARS-CoV-2 vaccine-induced antibodies. Follow-up testing with a molecular test is recommended in symptomatic patients.

Positive:

SARS-CoV-2 antibodies to the nucleocapsid protein detected. Results suggest recent or prior infection with SARS-CoV-2. Correlation with epidemiologic risk factors and other clinical and laboratory findings is recommended. Serologic results should not be used to diagnose recent SARS-CoV-2 infection. Protective immunity cannot be inferred based on these results alone. False-positive results may occur due to cross-reactivity from pre-existing antibodies or other possible causes.

Cautions

The sensitivity of Roche Elecsys Anti-SARS-CoV-2 test in early infection is unknown. Negative results do not preclude severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infections. If an acute infection is suspected, direct testing for SARS-CoV-2 virus is necessary.

This test detects total antibodies against the SARS-CoV-2 nucleocapsid protein. All current SARS-CoV-2 vaccines induce antibodies to the spike glycoprotein only. Therefore, this assay will not detect SARS-CoV-2 vaccine induced anti-Spike glycoprotein antibodies and cannot be used to measure vaccine response.

False-positive results for Roche Anti-SARS-CoV-2 IgG test may occur due to cross-reactivity from pre-existing antibodies or other possible causes.

Serum biotin concentrations up to 1200 ng/mL do not interfere with this assay. Extremely high concentrations of biotin in patient serum due to heavy administration or supplementation of biotin may falsely depress anti-SARS-CoV-2 antibody detection.

Performance characteristics have not been established for the following specimen characteristics:

- Potential endogenous interferences eg, hemolysis, bilirubin, rheumatoid factors and pharmaceutical compounds other than biotin have not been tested and therefore interference cannot be excluded
- Containing particulate matter
- Cadaveric specimens

Clinical Reference

Performance

Method Description

The Roche Elecsys anti-SARS-CoV-2 assay uses a recombinant protein representing the nucleocapsid (N) antigen for the determination of antibodies against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). In the first incubation the sample, biotinylated SARS-CoV-2-specific recombinant antigen and SARS-CoV-2-specific recombinant antigen labeled with a ruthenium complex form a sandwich complex. During the second incubation, after addition of streptavidin-coated microparticles, the complex becomes bound to the solid phase via interaction of biotin and streptavidin. The reaction mixture is aspirated into the measuring cell where the microparticles are magnetically captured onto the surface of the electrode. Unbound substances are then removed. Application of a voltage to the electrode induces chemiluminescent emission, which is measured by a photomultiplier. Results are determined automatically by the software by comparing the electrochemiluminescence signal obtained from the reaction product of the sample with the signal of the cutoff value previously obtained by calibration. (Package insert: Elecsys Anti-SARS-CoV-2. Roche Diagnostics; v 4.0. 08/2020)

PDF Report

No

Day(s) Performed

Monday through Sunday

Report Available

Same day/1 to 3 days

Specimen Retention Time

7 days

Performing Laboratory Location

Rochester

Fees and Codes

Fees

- Authorized users can sign in to Test Prices for detailed fee information.
- Clients without access to Test Prices can contact Customer Service 24 hours a day, seven days a week.
Test Definition: COVTA
SARS-CoV-2 Nucleocapsid Total Ab, S

- Prospective clients should contact their Regional Manager. For assistance, contact Customer Service.

Test Classification
This test has received Emergency Use Authorization (EUA) by the US Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
86769

LOINC® Information

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