

### SARS-CoV-2 Antigen Self Test Nasal For Self Testing

REF	$\overline{\mathbb{V}}$	SYSTEM
9901-NCOV-06G	5	visual reading

Intended use The SARS-CoV-2 Antigen Self Test Nasal is a so-called lateral flow test for the qualitative detection of SARS-CoV-2 nucleocapsid antigen in human nasal samples. This test is used to detect antigens of the SARS-CoV-2 virus in individuals suspected of having COVID-19. It is designed as a self-test for patients.

At the end of 2019, a novel virus was discovered in a cluster of pneumonia cases.<sup>1</sup> This virus At the end of 2019, a novel virus was discovered in a cluster of pneumonia cases.<sup>1</sup> This virus belongs to the large family of *Coronaviruses*, and has been named SARS-CoV-2 because its genetic sequence is closely related to the virus that caused the SARS outbreak in 2013.<sup>2</sup> The disease caused by SARS-CoV-2 is called COVID-19 (COronaVIrus Disease 2019).<sup>3,4</sup> The course of SARS-CoV-2 infections can vary widely. Some infected individuals do not have any symptoms, others experience relatively mild symptoms such as fever, cough, loss of taste or smell, or diarrhea. But it can also cause more serious symptoms to develop after an exposure to SARS-CoV-2, but sometimes it can take as long as 14 days.<sup>6</sup>

- ReagentsmAb anti-COVID-19 antibody
- mAb anti-chicken-lgY mAb anti-COVID-19 antibody-gold conjugate
- purified chicken-IgY-gold conjugate

#### Precautions and warnings

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#### Use the test kit once only

- Remove the test device from the sealed pouch only when you are ready to perform the test. Do not use the test kit if the pouch is damaged.
- In the event of a spillage, ensure that it is cleaned thoroughly using a suitable disinfectant.
- Use only the components of this test kit.
- Inadequate or improper sample collection may lead to inaccurate or false results Avoid contact with skin and eyes. In case of accidental contact, rinse well in order to avoid
- skin irritations. In case of concerns, consult your doctor. Keep the test kit away from children to reduce the risk of accidentally drinking the buffer liquid
- or swallowing small parts. Do not use any of the test components in the body with the exception of the swab included in
- the kit. Do not swallow any of the components. Please consult a medical expert to discuss your test result and to find out whether additional tests are needed. Please also consult a doctor if you have any concerns about your health, if
- you are experiencing prolonged symptoms, or if your symptoms are worsening. Even if your test result is negative, continue to observe all applicable hygiene and safetv
- Dispose all waste materials in accordance with local rules

For customers in the European Economic Area: Contains a SVHC: Octylphenol ethoxylate. Only for use as part of an IVD method and under controlled conditions in accordance with Art. 56.3 and 3.23 of the REACH Regulation. Prevent release into the environment, drainage system or water bodies.

Storage and stability Store the kit at 2 - 30 °C / 36 - 86 °F and protect from direct sunlight. The expiry date of the materials is indicated on the external packaging. Do not freeze the kit.

#### Materials provided

- Test device (packaged in foil pouch 1 including desiccant package)
- Tube with liquid and nozzle cap (packaged in foil pouch 2) Sterile swaba

Tube holder

Instructions for Use and Quick Reference Guide

### Materials required (but not provided)

### Tissue

Test preparation and sample collection Carefully read the Instructions for Use of the SARS-CoV-2 Antigen Self Test Nasal. Please also see the enclosed Quick Reference Guide (with illustrations) before performing the tes

Preparing for a test Prior to starting the procedure, the test device and reagents must be equilibrated to operating temperature (15 - 30 °C / 59 - 86 °F).

- 1. Wash your hands with soap and water or use a hand sanitizer before performing the test. 2. Check the expirv date on the back of the foil pouches. Do not use the test if the expiry date
- has passed. 3. Open one of the foil pouches 1 by tearing along the tear-line and take out the test device and
- the desiccant package. Use the test immediatedly after opening the pouch. 4. Ensure that the test device is intact and that there are no green beads in the desiccant package. Do not open the desiccant package.

### Collecting and preparing a nasal sample

- 1. Open the foil pouch 2 by tearing along the tear-line and take out one of the tubes with the liquid and one nozzle cap and place them on the table.
- 2. Open the seal of the tube carefully without spilling the liquid inside the tube. Place the tube in the tube holder.
- 3. Blow your nose once using a tissue.
- 4. Remove the swab from the packaging. Ensure that you only touch the handle of the swab and not the soft pad at the tip. 5. Slightly tilt your head backwards
- 6. Insert the swab with the soft pad at the front into your left nostril. Slowly slide the swab approx, 2 cm forward (parallel to the roof of your mouth - not upwards) until you encounter sistance. Do not apply any pressure
- 7. Rotate the swab 4 times (for a total of approx. 15 seconds) against the lining of the nasal wall before removing it from the nostril.
- 8. Repeat steps 6 and 7 in your right nostril using the same swab.
- 9. Insert the swab into the tube until the soft pad is in the liquid. Squeeze the tube at the bottom and hold it tight. Stir the swab more than 10 times to transfer the biological material from the swab to the liquid.

10 Remove the swab while squeezing the sides of the tube to extract the liquid from the swab Dispose the swab and seal the tube securely with the nozzle cap.

The same swab is used to collect samples from both nostrils.

#### Performing the test 1. Place the test device on a flat surface.

- 2. Hold the tube upright above the circular well on the test device (not over the rectangular result window)
- 3. Drop exactly 4 drops onto the circular well. Gently squeeze the sides of the tube together if Note: You can continue with the test even if you accidentally drop 5 drops onto the test
- Set the timer and read the test result after 15 to 30 minutes.
- 5. Wash your hands with soap and water or use a hand sanitizer after performing the test.
- A Failure to squeeze the tube can lead to incorrect results due to excess buffer in the swab.
- A Test results that are read before 15 minutes or after 30 minutes may be incorrect.

#### Interpreting the test results Invalid test result:

### If a control line (C) is not visible, the result must be considered invalid. The test is not working correctly and you should perform another test using a different test kit. You may have performed the test incorrectly. Carefully read the Instructions for Use and repeat the test. If vour test result is still invalid, please contact your doctor or a COVID-19 test center

#### Positive test result

If a test line (T) is visible together with a control line (C), this means that the result is positive Look carefully at the result: The test should be considered positive if two lines are visible even if they are faint. A positive test result means it is very likely that you have COVID-19. Please contact your doctor/primary care physician or your local health authority immediately and adhere to the local guidelines regarding self-isolation. Your doctor may require you to undergo a PCR test to confirm the result.

#### Negative test result:

If a control line (C) is visible (regardless of how faint it is) and a test line (T) is not visible, this means that the result is negative. It is unlikely that you have COVID-19. However, even if your test is negative, continue to observe all hygiene and safety measures. If you suspect that you have an infection (i.e., if you have prolonged symptoms or if your symptoms are worsening), contact your doctor/primary care physician. You may have another infection, or your test result may be false. You may repeat the test after 1 - 2 days, as COVID-19 cannot be detected with complete accuracy during all stages of an infection.

### Limitations of the procedure

- The test procedure, precautions and interpretation of results for this test must be followed strictly when testing.
- The test should be used for the detection of SARS-CoV-2 antigen in human nasal swab
- This is a gualitative test, therefore quantitative values of SARS-CoV-2 antigen concentration cannot be determined.
- The SABS-CoV-2 Antigen Self Test Nasal for natient self-testing was evaluated in a study of symptomatic adults aged 18 to 68. If the test is to be used on a child or teenager under 18 years of age, the test must be performed by an adult or under adult supervision. For older individuals aged over 61, a helper should also be on hand to provide assistance with testing and result interpretation
- False negative test results (i.e., an existing infection is falsely not detected) may occur if the antigen level in the specimen is less than the minimum detection limit of the test.
- False negative test results may occur if the specimen was collected incorrectly
- False negative test results may occur if the specimen swab is not mixed well in the tube (step 9 in the test procedure section).
- Antigen can generally be detected using front nasal swab samples during the acute phase of infection.
- The immune response cannot be evaluated using this test. Other test methods are required. for that purpose.
- Positive results indicate the presence of viral antigens. However, a clinical correlation with the case history and other diagnostic information are required to determine the status of the infection.
- Positive results do not exclude the possibility that a bacterial infection or a co-infection with another virus is present.
- Human coronavirus HKU1 could not be tested in the lab. There is a very low probability of cross-reactivity with HKU1.
- False positive results may occur in the presence of SARS-CoV infections.
- Negative results should be viewed as provisional and a PCR test should be performed as confirmation if necessary.

 Negative results do not rule out a SABS-CoV-2 infection and should not be used as the sole basis for treatment or patient management decisions, including decisions about infection control. Individuals who have tested negative and continue to show COVID-19-like symptoms should contact their doctor/primary care physician.

#### Specific performance data

Clinical evaluation The clinical performance of the SARS-CoV-2 Antigen Self Test Nasal for patient self-testing was The cumical performance on the SARS-CoV-2 Antigen Set1 fest Nasal for patient self-festing was evaluated using nasal swab samples collected from 146 (of which, 139 within 7 days post symptom onset) study participants in a prospective study at a clinical center in Germany. The clinical evaluations were performed independently from the manufacturer and distributor within a collaboration between the university hospitals Charité in Berlin and Heidelberg. The study cohort included symptomatic adults (aged 18 to 68) who were clinically suspected of having a SARS-CoV-2 infection.

In the patient self-testing group, the study participants followed written instructions with illustrations for taking a nasal swab sample and performing the test themselves. The samples were collected and the tests performed under the observation of healthcare professionals, who did not intervene at any stage. PCR tests using combined deep nose/deep throat swab samples were used as a comparative method. Nasal sampling by the self-testers always preceded the combined deep nose/deep throat sample collection for RT-PCR comparison. A SARS-CoV-2 infection was diagnosed (using PCR) in 27.4 % of the patients.

The clinical performance of the SARS-CoV-2 Antigen Self Test Nasal was also evaluated for fessional testing following patient self-collection and professional collection of nasal swab mples in the same clinical center. 229 adults who were clinically suspected of having a samples in the same clinical center. 229 adults who were clinically suspected of having a SARS-CoV-2 infection were included in the prospective study. 133 study participants (thereof 126 within 7 days post symptom onset) underwent nasal sampling performed by healthcare professionals and 96 study participants (thereof 88 within 7 days post symptom onset) followed instructions for collecting their nasal swab samples themselves. Self-collection was performed under the supervision of healthcare professionals. PCR tests were performed as described obcurs.

Test sensitivity and specificity In the self-testing study, the SARS-CoV-2 Antigen Self Test Nasal correctly identified 91.2 % (CI: 76.3 % - 98.1 %) of infected study participants with a relatively high viral load (CI < 30). Individuals with a high viral load are considered to be at higher risk of being infectious and Transmitting the virus to others. For all study participants, the antigen rapid test correctly identified 82.5 % (Cl: 67.2 % - 92.7 %) of infected study participants and 100.0 % (Cl: 96.5 % - 100.0 %) of non-infected study

participants.

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EC REP Authorized Representative

Warning

Use-by date

Temperature limit

Do not re-use

Contains sufficient for 6 tests

Do not use if package is damaged

Date of manufacturing

Keep away from sunlight

Authorized Representative

Additions, deletions or changes are indicated by a change bar in the margin

Rongshuxia Industrial Zone, Tongxin Community,

Baolong Street, Longgang District, Shenzhen,

Repräsentanzbüro Heerdter Lohweg 83, 40549 Düsseldorf, Germany

Roche Diagnostics GmbH, Sandhofer Strasse 116, D-68305 Mannheim

MT Promedt Consulting GmbH Altenhofstrasse 80 66386 St Ingbert Germany

Keep product dry

Distributor

Swab Manufacturer:

EC REP Swab Authorized Representative

SD BIOSENSOR

Share Info Consultant Service I I C

Miraclean Technology Co., Ltd.

Room 301, Building A, No.18,

518116 Guangdong, P.R. China

Manufacturer

In all 3 cohorts together, 110 PCR-positive and 263 PCR-negative study participants were evaluated using the SARS-CoV-2 Antigen Self Test Nasal. For patients with a relatively high viral load (Cl  $\leq$  30), the relative sensitivity was 91.1 % (95 % Cl: 83.8 % - 95.8 %, N=101). For all samples, the overall relative sensitivity and the overall relative specificity were 86.4 % (95 % Cl: 78.5 % - 92.2 %) and 99.6 % (95 % Cl: 97.9 % - 100.0 %), respectively.

For patients tested within 7 days post symptom onset (DPSO), the relative sensitivity was 87.4 % (95 % Cl: 79.4 % - 93.1 %) and the relative specificity was 99.6 % (95 % Cl: 97.7 % - 100.0 %).

	Antigen positive/ PCR positive	Antigen negative/ PCR negative	Relative sensitivity (95% confidence interval)	Relative specificity (95% confidence interval)
Self Testing**	33 out of 40	105 out of 105	82.5 % (67.2 % - 92.7 %)	100 % (96.5 % -100 %)
Self collection	31 out of 34	61 out of 62	91.2 % (76.3 % - 98.1 %)	98.4 % (91.3 % - 100 %)
Professional collection*	31 out of 36	96 out of 96	86.1 % (70.5 % - 95.3 %)	100 % (96.2 % - 100 %)
Combined*,**	95 out of 110	262 out of 263	86.4 % (78.5 % - 92.2 %)	99.6 % (97.9 % - 100 %)
Ct ≤ 30***	92 out of 101	n.a.	91.1 % (83.8 % - 95.8 %)	n.a.
DPSO ≤ 7*,**	90 out of 103	242 out of 243	87.4 % (79.4 % - 93.1 %)	99.6 % (97.7 % - 100 %)

\*\*One sample (PCR negative) was excluded from the analysis because the antigen test result

\*\*\*Ct values are commonly used to estimate the amount of the viral material in samples. A low Ct value suggests the presence of a lot of viral material, and a high Ct value suggests the presence of lower levels of viral material.

### Analytical performance 1. Cross-reactivity & microbial interference: Cross-reactivity was observed for SARS-CoV

Wu et al. Nature. 2020. 579:265–9.

6 Centers for Disease Control and Prevention.

Reference number

in vitro diagnostic medical device

Global Trade Item Number

Unique Device Identifier

Consult instructions for use

Serial Number

Cautior

Systems on which reagents can be used

This product fulfills the requirements of the European Directive 98/79/EC

Batch code

Microbiol 2020 5:536-44

Accessed 6 Jan 2021.

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Phosphate 5 mg/ml )

2. Studies of exogenous / endogenous interference substances studies:

# A studies of exogenous / endogenous / endoge

Coronaviruses. European Centre for Disease Prevention and Control. https://www.ecdc.europa.eu/en/covid-19/latest-evidence/coronaviruses 2021.

Muccus (Muclin, 0.5 %); Common nose and throat drops/sprays/candies (Menthol/Benzocaine, 1.5 mg/mL; NeilMed Naso Gel, 5 % v/v; Phenylephrine, 15 % v/v; Oxymetazoline, 15 % v/v; Cromolyn, 15 % v/v; Zicam, 5 % v/v; Alkalol, 1:10 dilution; Phenol Spray, 15 % v/v; Tobramycin, 4 Jg/mL); Other common medicines (Mupirocin, 10 mg/mL; Fluticasone Propionate, 5 % v/v; Oseltamivir

A point (period/stop) is always used in this Method Sheet as the decimal separator to mark the

ses. Accessed 6 Jan

border between the integral and the fractional parts of a decimal numeral. Separators fo thousands are not used.

3 Coronaviridae Study Group of the International Committee on Taxonomy of Viruses. Nat

4 https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-%28covid-2019%29-and-the-virus-that-causes-it.

WHO. https://www.who.int/publications-detail-redirect/diagnostic-testing-for-sars-cov-2.

https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html. Accessed 6

Symbols Roche Diagnostics uses the following symbols and signs in addition to those listed in the ISO



SD BIOSENSOR Head office: C-4th&5th, 16, Deogyeong-daero 1556beon-gil, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16690 REPUBLIC OF KOREA Manufacturing site: 74, Osongsaengmyeong 4-ro, Osong-eup, Heungdeok-gu, Cheongju-si, Chungcheongbuk-do, 28161 REPUBLIC OF KOREA www.sdbiosensor.com
y: stics GmbH, Sandhofer Strasse 116, D-68305 Mannheim m umber: 09445323
orized Representative



This guide is a reference for using the SARS-CoV-2 Antigen Self Test Nasal It is essential that you read the Instructions for Use for patients before using this test.

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# 1 Preparing for a test

1. Carefully read the Instructions for Use for patients for the SARS-CoV-2 Antigen Self Test Nasal.

2 Collecting and preparing nasal sample

Open the foil pouch **2** by tearing along the tear-

and one nozzle cap and place them on the table

spilling the liquid inside the tube. Place the tube

line and take out one of the tubes with liquid

Open the seal of the tube carefully without

2. Wash your hands with soap and water or use a hand sanitizer before performing the test.



in the tube holder.

pouches. Do not use the test if the expiry date has passed

3. Check the expiry date  $\square$  on the back of the foil

Image: / REF No. 9901 - NCOV-0EG   Image: / LOT No.   real: / LOT No.	SARS-CoV	-2 Antigen Sel
LOT No.	REF No.	9901-NCOV-06G
	LEFT / LOT No.	

Blow your nose once using a tissue. 3.

Important

**Warning!** 

test

safety information

· Wash your hands with soap and water or use a hand sanitizer before and after performing the

· Keep the swab clean. Avoid touching the tip of the swab and ensure that it does not come into

contact with any surfaces prior to use.

· Avoid contact with skin and eyes. In case of

thoroughly using a suitable disinfectant.

Do not swallow any of the components.

accidental contact, rinse well in order to avoid skin

irritations. In case of concerns, consult your doctor.

In the event of a spillage, ensure that it is cleaned

Do not use any of the test components in the body with the exception of the swab included in the kit.

Use the test kit only once.

- Remove the swab from the packaging. Ensure 4. that you only touch the handle of the swab and not the soft pad at the tip.
- Rotate the swab 4 times (for a total of approx. 7. 15 seconds) against the lining of the nasal wall before removing it from the nostril.
- 8. Repeat steps 6 and 7 in your right nostril using the same swab Note: Samples must be collected from both nostrils using the same swab.



- Insert the swab into the tube until the soft pad is in 9. the liquid. Squeeze the tube at the bottom and hold it tight. Stir the swab more than 10 times to transfer the biological material from the swab to the liquid.
- 10. Remove the swab while squeezing the sides of the tube to extract the liquid from the swab. Dispose the swab and seal the tube securely with the nozzle cap.



WARNING! Failure to squeeze the tube can lead to incorrect results due to excess buffer in the swab.

# **3** Performing a test

- 1. Place the test device on a flat surface.
- 2. Hold the tube upright above the circular well marked on the picture below (not over the rectangular result window).



3. Drop exactly 4 drops onto the circular well. Gently squeeze the sides of the tube together if necessary. Note: You can continue with the test even if you accidentally drop 5 drops onto the test device.

your left nostril. Slowly slide the swab approx.

2 cm forward (parallel to the roof of your mouth - not upwards) until you encounter resistance.

Slightly tilt your head backwards.

Do not apply any pressure.

5. 6.

> 4. Set the timer and read the test result after 15 to 30 minutes

WARNING! Test results that are read before 15 minutes or after 30 minutes may be incorrect.

15-30 min

- 5. Wash your hands with soap and water or use a hand sanitizer after performing the test.

## Components of the test kit

Pouch 1 containing a test device and a desiccant package (x5)



Sterile swab









Tube holder

Pouch 2 containing 5 tubes with liquid and 5 nozzle caps (x1)



 Timer Tissue

- 4. Open one of the foil pouches **1** by tearing along the tear-line and take out the test device and the desiccant package.
- 5. Ensure that the test device is intact and that there are no green beads in the desiccant package. Do not open the desiccant package.







# **4** Interpreting results





Negative test result



3. If a control line (C) is visible (regardless of how faint it is) and a test line (T) is not visible, this means that the result is negative. It is unlikely that you have COVID-19.

However, even if your test is negative, continue to observe all hygiene and safety measures.

If you suspect that you have an infection (i.e., if you have prolonged symptoms or if your symptoms are worsening), contact your doctor/primary care physician. You may have another infection, or your test result may be false. You may repeat the test after 1-2 days, as COVID-19 cannot be detected with complete accuracy during all stages of an infection.

Document version: Initial version

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1. If a control line (C) is not visible, the result must be considered invalid.

The test is not working correctly and you should perform another test using a different test kit.

You may have performed the test incorrectly. Carefully read the Instructions for Use and repeat the test. If your test result is still invalid, please contact your doctor or a COVID-19 test center.

2. If a test line (T) is visible together with a control line (C), this means that the result is positive.

Look carefully at the result: The test should be considered positive if two lines are visible - even if they are faint.

A positive test result means it is very likely that you have COVID-19. Please contact your doctor/primary care physician or your local health authority immediately and adhere to the local auidelines regarding self-isolation. Your doctor may require you to undergo a PCR test to confirm the result.

SD Biosensor, Inc.

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