

Version 2c Last updated 29 April 2020

ab272244

Novel Coronavirus IgM Antibody Detection Kit (SARS-CoV-2)

View ab272244

Novel Coronavirus IgM Antibody Detection Kit (SARS-CoV-2) datasheet:

www.abcam.com/ab272244

(use www.abcam.cn/ab272244 for China, or www.abcam.co.jp/ab272244 for Japan)

For the qualitative detection of Novel Coronavirus (SARS-CoV-2) IgM antibodies in human serum, plasma and whole blood.

This product is for research use only and is not intended for diagnostic use.

Table of Contents

1. Overview	1
2. Materials Supplied and Storage	3
3. Materials Required, Not Supplied	3
4. General guidelines, precautions, and troubleshooting	4
5. Reagent Preparation	5
6. Sample Preparation	5
7. Assay Procedure	6
8. Typical Data	7
9. Notes	8

1. Overview

Novel Coronavirus IgM Antibody Detection Kit (SARS-CoV-2) (ab272244) is suitable for the qualitative detection of Novel Coronavirus (SARS-CoV-2) IgM antibodies in human serum, plasma, and whole blood.

The detection kit uses the principle of immunochromatography: the separation of components in a mixture through a medium using capillary force and the specific and rapid binding of an antibody to its antigen. Each cassette is a dry medium that has been coated separately with novel coronavirus N protein ("T" test line) and goat antichicken IgY antibody ("C" control line) (Figure 1). Two free colloidal gold-labeled antibodies, mouse anti-human IgM (mIgM) and chicken IgY, are in the release pad section (S). Once diluted serum, plasma, or whole blood is applied to the release pad section, the mIgM antibody will bind to coronavirus IgM antibodies if they are present, forming an IgM-IgM complex. The sample and antibodies will then move across the cassette's medium via capillary action. If coronavirus IgM antibody is present in the sample, the test line (T) will be bound by the IgM-IgM complex and develop color. If there is no coronavirus IgM antibody in the sample, free mIgM will not bind to the test line (T) and no color will develop. The free chicken IgY antibody will bind to the control line (C); this control line should be visible after the detection step as this confirms that the kit is working properly.

The following Detection Kits are available:

Novel Coronavirus IgG Antibody (SARS-CoV-2) - ab272243

Novel Coronavirus IgM Antibody (SARS-CoV-2) - This kit

Collect sample (serum, plasma or whole blood)



Add Sample (25 μ L) to Sample Diluent



Add 2-3 drops of diluted Sample to Detection Cassette



Interpret results after 8-10 minutes

2. Materials Supplied and Storage

Store kit at 2-30°C in a cool dry place. Kit can be stored for 1 year from receipt.

Do not freeze.

Item	Quantity	Storage temperature
Detection Cassette	20 units	2-30°C
Sample Diluent	20 tubes (245 µL each)	2-30°C

The components of the Detection Cassette are:

- Novel coronavirus N protein (fixed on porous capillary membrane)
- Goat anti-chicken IgY antibody (fixed on porous capillary membrane)
- Colloidal gold-labeled mouse anti-human IgM antibody (on the release pad)
- Colloidal gold-labeled chicken IgY antibody (on the release pad)

Δ Note: The components in different batches cannot be used interchangeably.

3. Materials Required, Not Supplied

These materials are not included in the kit, but will be required to successfully perform this assay:

- Anti-coagulant tubes for plasma collection

4. General guidelines, precautions, and troubleshooting

Please observe safe laboratory practice and consult the safety datasheet.

For general guidelines, precautions, limitations on the use of our assay kits and general assay troubleshooting tips, particularly for first time users, please consult our guide:

www.abcam.com/assaykitguidelines

For typical data produced using the assay, please see the assay kit datasheet on our website.

5. Reagent Preparation

Reagents are supplied ready to use.

6. Sample Preparation

The assay is suitable for human serum, plasma, or whole blood samples.

Whole blood collection:

Any non-anticoagulated whole blood, including finger prick blood may be used, but the test must be processed immediately. These samples cannot be stored.

Serum and plasma collection:

Samples should be collected via venous draw and should not be hemolyzed. Serum and plasma should be separated as soon as possible after blood collection to avoid hemolysis. The collection of plasma requires a tube with anticoagulant. After anti-coagulated plasma is collected, shake the tube well to mix.

Δ Note: Samples should be used as soon as possible after collection.

Δ Note: During sample processing disposable pipettes or pipette tips are required, and care must be taken to prevent cross-contamination.

Sample preservation:

Non-anticoagulated samples have to be run immediately. Other samples should be run as soon as possible after collection and kept at or below 8 °C at all times.

If long-term storage is required, please store at -20 °C for periods less than 3 months, or store at -80 °C for periods longer than 3 months. Avoid repeated freezing and thawing.

7. Assay Procedure

- Bring the Detection Cassette, Sample Diluent, and sample to room temperature before testing.

Test method:

- 7.1 Add 25µl of sample to the Sample Diluent and mix thoroughly.
- 7.2 Add 2-3 drops to the release pad section (S) of the Detection Cassette.
- 7.3 The results can be interpreted in 8-10 minutes.

Δ Note: Results measured after 20 minutes are invalid and should be discarded.

Δ Note: Only use the matching diluent in the kit package. Diluents from different kit lots cannot be mixed.

Δ Note: Do not use tap water, purified water or distilled water as negative controls.

Δ Note: The test should be used within 1 hour after opening. If the ambient temperature is higher than 30 °C, or the test environment is humid, the Detection Cassette should be used immediately.

Δ Note: If there is no movement of the liquid after 30 seconds of beginning the test, 1 additional drop of sample solution should be added.

Interpretation of test results:

See Section 8 for interpretation of results and representative data.

Δ Note: Product test results are for reference only and should not be the sole basis for diagnosis and treatment. Use of this kit should be combined with clinical symptoms and should be confirmed by other conventional detection methods.

Δ Note: Coronavirus may not be detected even though coronavirus antibodies are present in the sample, leading to a false negative. This may occur if the amount of coronavirus antibodies is below the detection level of the kit. To decrease the chance of obtaining a false negative, it is recommended that both coronavirus IgG (ab272243) and IgM (this kit) are tested.

8. Typical Data

Data provided for demonstration purposes only.

Positive for Coronavirus: Both the test line (T) and the quality control line (C) are colored dark pink.

Negative for Coronavirus: The test line (T) does not develop color, or a faint gray band may be visible, but the quality control line (C) is colored.

Suspect: A light pink band is an inconclusive result. The sample requires an alternate testing method (such as RT-qPCR) to determine positivity.

Invalid: There is no colored control line (C) band. The results are invalid regardless of whether a red band appears on the test line (T); additional testing is required.

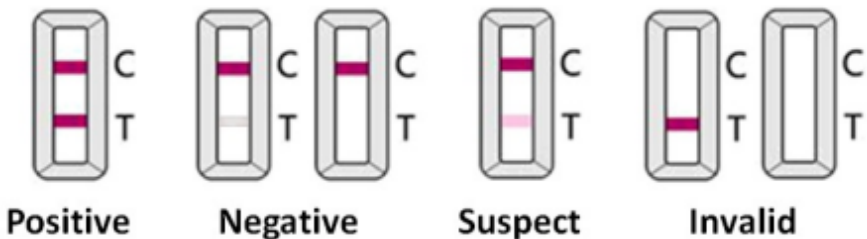


Figure 1: Representation of possible test results.

Δ Note: Coronavirus may not be detected even though coronavirus antibodies are present in the sample, leading to a false negative. This may occur if the amount of coronavirus antibodies is below the detection level of the kit. To decrease the chance of obtaining a false negative, it is recommended that both coronavirus IgG (ab272244) and IgM (this kit) are tested.

9. Notes

Technical Support

Copyright © 2020 Abcam. All Rights Reserved. The Abcam logo is a registered trademark. All information / detail is correct at time of going to print.

For all technical or commercial enquiries please go to:

www.abcam.com/contactus

www.abcam.cn/contactus (China)

www.abcam.co.jp/contactus (Japan)