For Emergency Use only
For prescription use only
For *in vitro* diagnostic use only

ADEXUSDx® COVID-19 Test

For detection of total antibodies to SARS-CoV-2 in human venous whole blood (K2EDTA), plasma (K2EDTA), serum, and fingerstick whole blood.

Read this product insert completely before using the test. Follow the instructions carefully when performing the test. Failure to follow instructions may result in inaccurate test results.

STORAGE:

Store at 15-30°C (59-86°F)

NAME AND INTENDED USE:

The ADEXUSDx® COVID-19 Test is an *in vitro* lateral-flow immunoassay intended for qualitative detection of total antibodies to SARS-CoV-2 in human venous whole blood (dipotassium EDTA), plasma (dipotassium EDTA), serum, and fingerstick whole blood. The ADEXUSDx® COVID-19 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. At this time, it is unknown for how long antibodies persist following infection and if the presence of antibodies confers protective immunity. The ADEXUSDx® COVID-19 Test should not be used to diagnose or exclude acute SARS-CoV-2 infection.

Testing of venous whole blood (dipotassium EDTA), plasma (dipotassium EDTA), and serum specimens is limited to laboratories certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA), 42 U.S.C 263a, that meet requirements to perform moderate or high complexity tests.

Testing of fingerstick whole blood specimens is limited to laboratories certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA), 42 U.S.C. §263a, that meet the requirements to perform high, moderate, or waived complexity tests. Testing of fingerstick whole blood specimens is authorized for use at the Point of Care (POC), i.e., in patient care settings operating under a CLIA Certificate of Waiver, Certificate of Compliance, or Certificate of Accreditation.

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

Laboratories within the United States and its territories are required to report all results to the appropriate public health authorities.

The sensitivity of the ADEXUSDx® COVID-19 Test early after infection is unknown. Negative results do not preclude acute SARS-CoV-2 infection. If acute infection is suspected, direct testing for SARS-CoV-2 is necessary.

False positive results for the ADEXUSDx® COVID-19 Test may occur due to cross-reactivity from preexisting antibodies or other possible causes. Due to the risk of false positive results, confirmation of positive results should be considered using a second, different total antibody assay.

The ADEXUSDx® COVID-19 Test is only for use under the Food and Drug Administration's Emergency Use Authorization.

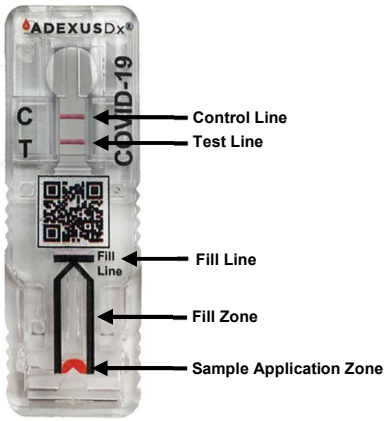
SUMMARY AND EXPLANATION:

Coronaviruses are a large family of viruses that are common among humans and several known different species of animals. Seven known types of human coronaviruses (HCoV) lead to respiratory diseases among humans. These coronaviruses include: 1) HCoV-229E, 2) HCoVNL63, 3) HCoV-OC43, 4) HCoV-HKU1, 5) SARS-CoV, 6) MERS-CoV, and 7) the novel Coronavirus Disease 2019 (COVID-19). Discovered in 2019 in Wuhan, China, COVID-19 is caused by infection with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Individuals infected with the virus report a mild to severe respiratory illness with fever, cough, and shortness of breath, and other symptoms which can rapidly lead to severe pneumonia, septic shock, multiple organ failure, and death.

TEST PRINCIPLE:

To run the test, a sample (human venous whole blood (K2EDTA) or plasma (K2EDTA), serum, or fingerstick whole blood) is applied in the Sample Application Zone of the cassette to fill the Fill Zone [**Figure 1**]. When enough sample is in the Fill Zone, the sample flows into a dry porous test strip composed of a plasma-separating membrane and a series of analytical membranes. The sample first passes through the plasma-separating membrane, which binds the erythrocytes in whole blood samples to prevent them from interfering with the test. The membrane also contains two separate colloidal gold conjugate materials: SARSCoV-2 recombinant antigen conjugated with colloidal gold and rabbit IgG conjugated with colloidal gold. The SARS-CoV-2 specific antibody in the sample binds to the gold labeled SARS-CoV-2 S1 RBD recombinant antigen in the upstream region of the test strip and the complex is captured by immobilized SARS-CoV-2 S1 RBD antigen at the test line location as it flows downstream. The appearance of a visible test line indicates the sample contains a detectable level of SARS-CoV2 antibody. Rabbit IgG conjugated with colloidal gold will flow past the test line region and bind to the polyclonal anti-rabbit antibody in the control line location of the analytical membranes, resulting in the appearance of a procedural control line. Test ("T") and Control ("C") Lines on each cassette are visually read for this qualitative test. The control line and the test line may differ in color intensity. The color intensity of the lines will increase slowly with time due to sample evaporation; the test result can be read as early as 15 minutes but must be read within 30 minutes to be valid. A line of any signal intensity at the test line indicates a positive result. If the test line is absent, the appearance of the control line assures that the sample was applied correctly, and that proper chromatography occurred in the test. A visible control line with an absent test line assures that the negative result was not due to improper test performance. If there is no control line, then the result is invalid.

Figure 1. ADEXUSDx® COVID-19 Test Schematic



MATERIALS PROVIDED:

Each box of fifty (50) tests contains the following items:

- Fifty (50) sealed aluminum pouches containing one (1) ADEXUSDx® COVID-19 Test and one (1) desiccant.
- One (1) Instructions For Use (quick reference instructions)
- Fifty (50) disposable, single-use sterile lancets (optional packaging*)

Each box of twenty-five (25) tests contains the following items:

- Twenty-five (25) sealed aluminum pouches containing one (1) ADEXUSDx® COVID-19 Test and one (1) desiccant.
- One (1) Instructions For Use (quick reference instructions)
- Twenty-five (25) disposable, single-use sterile lancets (optional packaging*)

**NOTE: Boxes will be packaged with and without lancets.*

MATERIALS REQUIRED BUT NOT PROVIDED:

- Watch or timer
- Gloves
- Negative and positive antibody controls (ADEXUSDx® COVID-19 Control Set, catalog number 475.002)
- Lancets*

WARNINGS:

- For Emergency Use Authorization only
- For prescription use only
- For *in vitro* diagnostic use only
- This product has not been FDA cleared or approved but has been authorized for emergency use by FDA under an EUA for use by authorized laboratories.
- This product has been authorized only for detecting the presence of total antibodies to SARS-CoV-2, not for any other viruses or pathogens.
- The emergency use of this product is only authorized for the duration of the declaration that circumstances exist justifying the authorization of emergency use of *in vitro* diagnostics for detection and/or diagnosis of COVID-19 under Section 564(b)(1) of the Federal Food, Drug and Cosmetic Act, 21 U.S.C. § 360bbb-3(b)(1), unless the declaration is terminated or authorization is revoked sooner.

- Negative results do not preclude acute SARS-CoV-2 infection. If acute infection is suspected, direct testing for SARS-CoV-2 is necessary.
- Results from antibody testing should not be used to diagnose or exclude SARS-CoV-2 infection.
- Positive results may be due to past or present infection with non-SARS-CoV-2 coronavirus strains, such as coronavirus HKU1, NL63, OC43, or 229E.
- Testing of venous whole blood, plasma, and serum specimens is limited to laboratories certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA), 42 U.S.C. § 263a, that meet requirements to perform moderate or high complexity tests.

- Testing of fingerstick whole blood specimens is limited to laboratories certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA), 42 U.S.C. §263a, that meet the requirements to perform high, moderate, or waived complexity tests. Testing of fingerstick whole blood specimens is authorized for use at the Point of Care (POC), i.e., in patient care settings operating under a CLIA Certificate of Waiver, Certificate of Compliance, or Certificate of Accreditation.
- Read the Product Insert completely before using this assay. Follow the instructions carefully. Failure to follow instructions may result in inaccurate test results.
- Use of ADEXUSDx® COVID-19 Test with sample types not specifically noted in the instructions may result in inaccurate test results.
- The ADEXUSDx® COVID-19 Test should be performed at 15 - 30°C (59 - 86°F).

PRECAUTIONS:

SAFETY PRECAUTIONS

- Specimens may be infectious. Use universal precautions when performing this assay.
- Use routine laboratory precautions. Avoid any contact between hands, eyes, or mouth during sample collection and testing.
- Use appropriate personal protective equipment (laboratory coat, gloves, and eye protection) during patient sample handling. Wash hands thoroughly after handling specimens.
- All samples and materials used in this test procedure must be disposed in a biohazard waste container. Proper handling and disposal methods should be established according to local regulations.

HANDLING PRECAUTIONS

- DO NOT USE the test if desiccant packet is missing. Discard test and use a new test.
- DO NOT USE the test if the pouch was not sealed.
- DO NOT USE the test beyond the expiration date stated on the pouch. Always check expiration date prior to performing test.
- DO NOT REUSE the test. Each test device is for single use only.
- Ensure finger is completely dry before performing fingerstick.

STORAGE AND STABILITY:

- The ADEXUSDx® COVID-19 Tests should be stored in sealed pouches at 15 - 30°C (59 - 86°F) until the expiration date.
- DO NOT FREEZE.
- Do not open sealed pouch until you are ready to perform the test.

SPECIMEN COLLECTION:

The ADEXUSDx® COVID-19 Test must be performed on human venous whole blood (K2EDTA) or plasma (K2EDTA), serum, or fingerstick whole blood samples.

VENOUS WHOLE BLOOD (K2EDTA)

- In a K2EDTA tube, collect blood by following laboratory procedure for venipuncture.
- Venous whole blood samples may be stored at room temperature for up to 4 hours prior to testing.
- Venous whole blood samples may be refrigerated for up to 2 days prior to testing.
- Venous whole blood must NOT be frozen.

PLASMA (K2EDTA)

- In a K2EDTA tube, collect blood by following laboratory procedure for venipuncture.
- Process blood to obtain plasma.
- Plasma samples must be refrigerated if not tested immediately after collection.
- Plasma samples may be refrigerated for up to 2 days prior to testing.
- Plasma samples must be frozen at -20°C (-4°F) or colder if not tested within 2 days post collection.

SERUM

- In an appropriate tube (no anticoagulant), collect blood by following laboratory procedure for venipuncture.
- Process blood to obtain serum.
- Serum samples must be refrigerated if not tested immediately after collection.
- Serum samples may be refrigerated for up to 2 days prior to testing.
- Serum samples must be frozen at -20°C (-4°F) or colder if not tested within 2 days post collection.

FINGERSTICK WHOLE BLOOD

- Fingerstick whole blood sample must be applied to the test immediately and cannot be stored refrigerated or frozen.
- Refer to Finger Stick Method Instructions below for collection instructions.

SPECIMEN SHIPPING:

If venous whole blood, serum, or plasma specimens are to be shipped, they should be packed in compliance with regulations covering the transportation of etiologic reagents. Venous whole blood samples, serum, and plasma specimen should be shipped refrigerated with cold packs or wet ice.

TEST PROCEDURE:

Follow these instructions to get an accurate result. Failure to follow the instructions or modification to the test system instructions will result in the test no longer meeting the requirements for Emergency Use Authorization.

Laboratory Pipette Method
Venous Whole Blood, Serum, or Plasma (non-waived setting)

PREPARATION

1. Make sure you have a watch or timer ready.
2. If you wear contacts or glasses, make sure that you are wearing them when you read the result.
3. Wear gloves.

DIRECTIONS

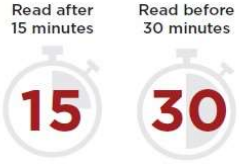
1. **Open test pouch.**
   Open a sealed pouch containing one (1) ADEXUSDx® COVID-19 Test and desiccant packet. Remove the test from the pouch and discard the desiccant packet. **DO NOT REMOVE THE CAP**. Lay the test on a flat surface.

2. **Collect the sample.**
   Collect 40 µL of sample using a laboratory pipette.

3. **Apply the sample to the test.**
   Apply the sample slowly into the Sample Application Zone until the Fill Zone is full and the Fill Line is reached. The pipette tip should be at an angle as shown to minimize any air bubbles.

4. **Tap the test twice.**
   After filling the Fill Zone, hold the test with the Sample Application Zone facing up and tap the opposite end of the test twice on a hard surface. Then, lay the test on a flat surface.

5. **Set a timer.**
   Set a timer for 15 minutes. Read the results after 15 minutes. Do not read the results after 30 minutes.



Finger Stick Method

PREPARATION

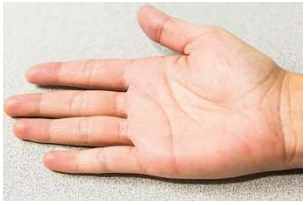
1. Make sure you have a watch or timer ready.
2. If you wear contacts or glasses, make sure that you are wearing them when you read your result.
3. Ensure the patients hands are clean and warm.
4. Wear gloves.
5. Open a sealed pouch containing one (1) ADEXUSDx® COVID-19 Test and desiccant packet. Remove the test from the pouch and discard the desiccant packet. **REMOVE THE CAP.**

   NOTE: Do not use test if pouch was not sealed.
6. Choose either the ring or middle finger of the patient for the puncture site. Wipe the end of the selected finger with an alcohol swab and allow finger to thoroughly air-dry.
7. Massage the palm and the selected finger firmly. Push on the base of the palm and direct the blood flow toward the tip of the selected finger.

DIRECTIONS

1. **Place the patient's palm upward & select where to prick.**
   Place the patient's hand on a flat surface with the palm facing up. Place the lancet against the tip of the disinfected finger in an off-center position toward the side facing the pinky.

   NOTE: Try not to use the center or top of the finger since these are the most sensitive areas of the finger.



2. **Prick the fingertip.**
   Deploy lancet according to manufacturer's instructions.

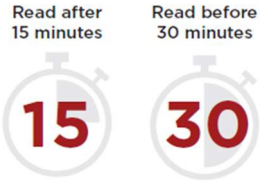
3. **Get the drop of blood.**
   Massage the finger at the base toward the tip until a drop of blood appears. Do not press directly on the punctured site. Continue massaging until you get a large, full drop of blood.

4. **Apply the drop of blood into the test.**
   Gently touch the drop with the tip of the test (the Sample Application Zone) so that the blood can flow into the test and fill the Fill Zone.

5. **Fill the test.**
   If one drop of blood does not fill the Fill Zone, that's okay. Set the test down and repeat steps 3 and 4 as many as times as needed until the Fill Zone is full and the Fill Line is reached.

6. **Tap the test twice.**
   After the Fill Line is reached, hold the test with the Sample Application Zone facing up and tap the opposite end of the test twice on a hard surface. Then, lay the test on a flat surface.

7. **Set the timer.**
   Set a timer for 15 minutes. If necessary, apply a bandage to the puncture site. Read the result after 15 minutes. Do not read the result after 30 minutes.



INTERPRETATION OF TEST RESULTS

"C" & "T" Lines
Lines may appear at two locations, marked "C" and "T".
"C" stands for Control Line; it tells you if the test has worked.
"T" stands for Test Line; it tells you if the test is positive or not.

Positive Result
A positive result has TWO LINES, one at the "C" and one at the "T". The intensity of the lines may vary, so look carefully as **<u>lines might be faint as shown in the image on the right</u>.**

Negative Result
A line at the “C” and no line at the “T” indicate a negative result.

Invalid Result
If NO line appears at the “C”, the test has not worked. You must retest using a new test.

QUALITY CONTROL:

Procedure controls are intrinsic to the cassette. In addition, the ADEXUSDx® COVID-19 Control Set is available for use. It includes a positive and a negative plasma control. Both positive and negative controls should be tested on each new shipment of reagents.

LIMITATIONS OF PROCEDURE:

- Use of the ADEXUSDx® COVID-19 Test is limited to personnel who have been trained. Not for home use.
- Performance has only been established with the specimen types listed in the Intended Use. Other specimen types have not been evaluated and should not be used with this assay.
- It is unknown at this time if the presence of antibodies to SARS-CoV-2 confers immunity to re-infection.
- The ADEXUSDx® COVID-19 Test is for *in vitro* diagnostic use only. The test should be used for the detection of SARS-CoV-2 antibodies in human venous whole blood (K2EDTA), plasma (K2EDTA), serum, and fingerstick whole blood. Neither quantitative value nor the rate of increase in SARS-CoV-2 antibody concentration can by determined by this qualitative test.
- The assay procedure and interpretation of assay result must be followed closely when testing for the presence of SARS-CoV-2 virus specific antibodies. For optimal performance, proper sample collection is critical. Failure to follow the procedure may give inaccurate results.
- Reading the results earlier than 15 minutes and after 30 minutes may yield erroneous results.
- The ADEXUSDx® COVID-19 Test will only indicate the presence of SARS-CoV-2 antibodies in the specimen and should not be used for the diagnosis of acute SARS-CoV-2. A molecular assay should be used to evaluate symptomatic patients for acute COVID-19.
- Results of immunosuppressed patients should be interpreted with caution.
- As with all diagnostic tests, all results must be interpreted together with other clinical information available to the physician.
- Negative results do not preclude SARS-CoV-2 infection and should not be used as the sole basis for patient management decisions. The sensitivity of the test early after infection is unknown.
- False positive results may occur due to cross-reactivity from pre-existing antibodies or other possible causes.

- A negative result for an individual subject indicates absence of detectable anti-SARS-CoV-2 antibodies. Negative results do not preclude SARS-CoV-2 infection and should not be used as the sole basis for patient management decisions. The sensitivity of this assay early after infection is unknown.
- A negative result can occur if the quantity of the anti-SARS-CoV-2 antibodies present in the specimen is below the detection limits of the assay, or the antibodies that are detected are not present during the stage of disease in which a sample is collected.

- A positive result may not indicate previous SARS-CoV-2 infection. Consider other information, including clinical history and local disease prevalence, in assessing the need for a second but different serology test to confirm an immune response.
- SARS-CoV-2 antibodies may be below detectable levels in samples collected from patients who have been exhibiting symptoms for less than 8 days. Samples should be collected from individuals that are ≥ 8 days post symptom onset. Samples should not be tested if collected from individuals less than 8 days post symptom onset.

- It is not known at this time if the presence of antibodies to SARS-CoV-2 confers immunity to infection.
- Positive results may be due to past or present infection with non-SARS-CoV-2 coronavirus strains, such as coronavirus HKU1, NL63, OC43, or 229E.
- Results from antibody testing should not be used to diagnose or exclude SARS-CoV-2 infection or to inform infection status.
- Correct performance of sample collection and storage is crucial for the test results.
- The test is qualified for use with venous whole blood (K2EDTA) or plasma (K2EDTA), serum, and fingerstick whole blood.
- The test should not be used for screening donated blood.
- The performance of this test has not been established in individuals that have received a COVID-19 vaccine. The clinical significance of a positive or negative antibody result following COVID-19 vaccination has not been established, and the result from this test should not be interpreted as an indication or degree of protection from infection after vaccination.
- The performance of this test was established based on the evaluation of a limited number of clinical specimens. Serum and plasma samples were collected during April–May 2020 in the US. Samples to support Point of Care studies were collected during Sept–Nov 2020 from prospectively enrolled participants in the U.S (TN, FL, and AZ). The clinical performance has not been established in all circulating variants but is anticipated to be reflective of the prevalent variants in circulation at the time and location of the clinical evaluation. Performance at the time of testing may vary depending on the variants circulating, including newly emerging strains of SARS-CoV-2 and their prevalence, which change over time.
- Interpreting the test result too early (i.e., before 15 minutes) may result in a false result.
- Incubation Temperature and Humidity at ≥40°C and ≤10% Relative Humidity, respectively, may cause false results.
- Tapping the test only once while performing the test may cause false results.
- Tapping the wrong end of the test, specifically the Sample Application Zone may cause false results
- The presence of residual soap at the fingerstick puncture site may cause false results
- Large bubbles within the sample or generated during sample application may cause false results

CONDITIONS OF AUTHORIZATION FOR THE LABORATORY:

The ADEXUSDx® COVID-19 Test Letter of Authorization, along with the authorized Fact Sheet for Healthcare Providers, the authorized Fact Sheet for Recipients, and authorized labeling are available on the FDA website: https://www.fda.gov/medical-devices/coronavirus-disease-2019-covid-19-emergency-use-authorizations-medical-devices/in-vitro-diagnostics-euas

Authorized laboratories using the ADEXUSDx® COVID-19 Test ("your product" in the conditions below), must adhere to the Conditions of Authorization indicated in the Letter of Authorization as listed below:

1. Authorized laboratories[1] using your product must include with test result reports, all authorized Fact Sheets. Under exigent circumstances, other appropriate methods for disseminating these Fact Sheets may be used, which may include mass media.
2. Authorized laboratories using your product must use your product as outlined in the authorized labeling. Deviations from the authorized procedures, including the authorized clinical specimen types, authorized control materials, authorized other ancillary reagents and authorized materials required to use your product are not permitted.
3. Authorized laboratories that receive your product must notify the relevant public health authorities of their intent to run your product prior to initiating testing.
4. Authorized laboratories using your product must have a process in place for reporting test results to healthcare providers and relevant public health authorities, as appropriate.
5. Authorized laboratories must collect information on the performance of your product and report to DMD/OHT7- OIR/OPEQ/CDRH (via email: CDRH-EUA-Reporting@fda.hhs.gov) and to you, NOWDiagnostics, Inc. (techsupport@nowdx.com, cc@nowdx.com or toll-free at 1-844-207-3370), any suspected occurrence of false positive or false negative results and significant deviations from the established performance characteristics of your product of which they become aware.
6. All laboratory personnel using your product must be appropriately trained in immunochromatographic techniques and use appropriate laboratory and personal protective equipment when handling this kit and use your product in accordance with the authorized labeling. All laboratory personnel using the assay must also be trained in and be familiar with the interpretation of results of the product.
7. NOWDiagnostics, Inc., authorized distributor(s), and authorized laboratories using your product will ensure that any records associated with this EUA are maintained until otherwise notified by FDA. Such records will be made available to FDA for inspection upon request.

[1] The letter of authorization refers to "authorized laboratories" as the following: Testing of serum, dipotassium EDTA plasma, and venous whole blood is limited to laboratories certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA), 42 U.S.C. 263a, that meet requirements to perform moderate or high complexity tests.

Testing of fingerstick whole blood specimens is limited to laboratories certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA), 42 U.S.C. §263a, that meet the requirements to perform high, moderate, or waived complexity tests. Testing of fingerstick whole blood specimens is authorized for use at the Point of Care (POC), i.e., in patient care settings operating under a CLIA Certificate of Waiver, Certified of Compliance, or Certificate of Accreditation.

PERFORMANCE EVALUATION:

CLINICAL AGREEMENT

Testing with serum and plasma

Clinical performance of the ADEXUSDx® COVID-19 Test was evaluated with serum or plasma samples collected at clinical sites or donor collection centers from the following cohorts:

- 180 individuals who tested positive with an FDA authorized SARS-CoV-2 molecular test (RT-PCR)
- 239 specimens collected prior to December 2019

Positive Percent Agreement (PPA) – Serum and Plasma Samples:

Positive Percent Agreement (PPA) was assessed using 180 specimens (24 serum and 156 plasma (K2EDTA)) retrospectively collected in the United States at clinical sites or donor collection centers from COVID-19 patients who tested positive with an FDA authorized RT-PCR test. The sites from which retrospective positive COVID-19 samples were sourced included Access Biologicals, Plasma Services Group, and Phoebe Putney Memorial Hospital, a combination of commercial vendors and hospitals. At Phoebe Putney Memorial Hospital, 156 plasma (K2EDTA) samples were collected. Fifteen serum samples were obtained from Access Biologicals. Nine serum samples were obtained from Plasma Services Group.

The blinded Clinical Agreement study for serum and plasma was conducted at NOWDiagnostics. Three operators performed the testing. The samples were tested according to the ADEXUSDx® COVID-19 Test Instructions For Use (IFU). The samples and test devices were randomized.

Data analysis and conclusions:

Results with the ADEXUSDx® COVID-19 test and PPA stratified by days post RT-PCR test results are shown in **Tables 1, 2, and 3**.

Table 1. Overall PPA by days post RT-PCR test; Serum and Plasma Samples

Days post RT-PCR test	Positive	Negative	PPA (95% CI)
≤7	130	7	94.9% (89.9%, 97.5%)
8 – 14	24	1	96.0% (80.5%, 99.3%)
≥15	18	0	100% (82.4%, 100.0%)

Table 2. PPA by days post RT-PCR test; Serum Samples

Days post PCR test	Positive	Negative	PPA (95% CI)
≤7	0	0	N/A
8 – 14	6	1	85.7% (48.7%, 97.4%)
≥15	17	0	100% (81.6%, 100.0%)

Table 3. PPA by days post RT- PCR test, K2EDTA Plasma Samples

Days post PCR test	Positive	Negative	PPA (95% CI)
≤7	130	7	94.9% (89.9%, 97.5%)
8 – 14	18	0	100% (82.4%, 100.0%)
≥15	1	0	100% (20.7%, 100.0%)

Negative Percent Agreement (NPA) - Serum and Plasma Samples:

Negative Percent Agreement (NPA)/specificity was assessed with 239 serum and plasma specimens collected prior to December 2019 (prior to the COVID-19 pandemic) and sourced from commercial vendors in the United States. The samples were tested according to the ADEXUSDx® COVID-19 Test Instructions For Use (IFU).

Data analysis and conclusions:

NPA between results obtained from the ADEXUSDx® COVID-19 Test and the expected negative results are shown in **Table 4**.

Table 4. ADEXUSDx® COVID-19 NPA; Serum and Plasma Samples

		Specimens prior to December 2019
ADEXUSDx® COVID-19 Test	Positive	5
	Negative	234

Negative Percent Agreement (234/239) = 97.9% (95.2%,99.1%)

Below is a table with the NPA/specificity data indicated by sample type.

Table 5. ADEXUSDx® COVID-19 NPA by Sample Type

	Serum	K2EDTA	Total
Negative	160	74	234
Positive	3	2	5
Total	163	76	239
NPA	98.2%	97.4%	97.9%

Point of Care (POC) Clinical Agreement Studies – Fingerstick Samples

Clinical performance of the ADEXUSDx® COVID-19 Test was evaluated in the United States with samples collected from prospectively enrolled participants at three geographically diverse clinical sites operating under a CLIA Certificate of Waiver, Certificate of Compliance, or Certificate of Accreditation. A total of 11 non-laboratorian healthcare operators performed the study. All operators were intended users of the ADEXUSDx® COVID-19 Test. A total of 124 participants were enrolled in the study from the following cohorts:

1. Persons who have tested positive with an FDA authorized SARS-CoV-2 molecular test (RT-PCR) test and can furnish said test report; ≥ 7 days post RT-PCR test)
2. Persons who have tested negative with an FDA authorized SARS-CoV-2 molecular test (RT-PCR) test and can furnish said test report; 0-6 days post RT-PCR test

Demographic data were collected from all participants.

Positive and negative controls were tested by each clinical site prior to study performance. All positive controls resulted positive and all negative controls resulted negative.

PPA – Fingerstick Samples

PPA was assessed using 59 fingerstick whole blood specimens collected at clinical sites from patients who tested positive with an FDA authorized SARS-CoV-2 molecular test (RT-PCR).

The samples were tested according to the ADEXUSDx® COVID-19 Test quick reference instructions (QRI).

PPA of the ADEXUSDx® COVID-19 test by days post RT-PCR results and days post symptom onset are shown in **Table 6** and **Table 7**.

Table 6. PPA by Days Post-RT-PCR Test; Fingerstick Samples

		ADEXUSDx® COVID-19 Test		
Days Post-RT-PCR	Number of Samples Tested	Total Antibody Positive Results	Total Antibody PPA	95% CI
0-7 days	2	0	0%	0-65.8%
8-14 days	4	4	100%	51-100%
≥15 days	53	50	94.3%	84.6-98.1%

Table 7. PPA by Days Post Symptom Onset Test; Fingerstick Samples

		ADEXUSDx® COVID-19 Test		
Days from Symptom Onset	Number of Samples Tested	Total Antibody Positive Results	Total Antibody PPA	95% CI
0-7 days	2	0	0%	0-65.8%
8-14 days	1	1	100%	20.7-100%
≥15 days	55	52	94.5%	85.1-98.1%

NPA – Fingerstick Samples

NPA was assessed using 65 fingerstick whole blood specimens collected at clinical sites from patients who tested negative with an FDA authorized molecular test (RT-PCR). The samples were tested according to the ADEXUSDx® COVID-19 Test QRI

NPA between results obtained from the ADEXUSDx® COVID-19 Test and RT-PCR results are shown in **Table 8**.

Table 8. ADEXUSDx® COVID-19 NPA Results; Fingerstick Samples

		RT-PCR
		Negative
ADEXUSDx® COVID-19 Test	Positive	3
	Negative	62

Negative Percent Agreement (62/65) = 95.4% (87.3%,98.4%)

Independent Clinical Agreement Validation Study:

The ADEXUSDx® COVID-19 Test was tested on March 4, 2021 at the Frederick National Laboratory for Cancer Research (FNLCR) sponsored by the National Cancer Institute (NCI). The test was validated against a panel of previously frozen samples consisting of 30 SARS-CoV-2 antibody-positive serum samples and 80 antibody-negative plasma (ACD) samples. Each of the 30 antibody-positive samples were confirmed with a nucleic acid amplification test (NAAT) and both IgM and IgG antibodies were confirmed to be present in all 30 samples. The presence of antibodies in the samples was confirmed by several orthogonal methods prior to testing with the ADEXUSDx® COVID-19 Test. The presence of IgM and IgG antibodies specifically was confirmed by one or more comparator methods. Antibody-positive samples were selected at different antibody titers.

All antibody-negative samples were collected prior to 2020 and include: i) Seventy (70) samples selected without regard to clinical status, “Negatives” and ii) Ten (10) samples selected from banked serum from HIV+ patients, “HIV+”. Testing was performed by one operator using one lot of the ADEXUSDx® COVID-19 Test. Confidence intervals for sensitivity and specificity were calculated per a score method described in CLSI EP12-A2 (2008).

For evaluation of cross-reactivity with HIV+, it was evaluated whether an increased false positive rate among antibody-negative samples with HIV was statistically higher than the false positive rate among antibody-negative samples without HIV (for this, a confidence interval for the difference in false positive rates was calculated per a score method described by Altman). The results and data analysis are shown in the tables below.

Summary Results

	Comparator Method			**Collected pre-2020**		**Total**
	Antibody Positive			**Antibody Negative**		
ADEXUSDx® COVID-19 Test	**IgM+, IgG+**	**IgM+, IgG-**	**IgM-, IgG+**	**Negative**	**HIV+**	**Total**
Pan Ig+	28					28
Pan Ig-	2			70	10	82
Total	30			70	10	110

Summary Statistics

Measure	Estimate	Confidence Interval
Pan Ig Sensitivity	**93.3% (28/30)**	**(78.7%; 98.2%)**
Pan Ig Specificity	**100% (80/80)**	**(95.4%; 100%)**
Combined Sensitivity	**93.3% (28/30)**	**(78.7%; 98.2%)**
Combined Specificity	**100% (80/80)**	**(95.4%; 100%)**
Combined PPV for prevalence = 5.0%	**100%**	**(47.5%; 100%)**
Combined NPV for prevalence = 5.0%	**99.7%**	**(98.8%; 99.9%)**
Cross-reactivity with HIV+	**0.0% (0/10), not detected**	

Important limitations:

1. Samples were not randomly selected, and sensitivity and specificity estimates may not be indicative of the real-world performance of the device.
2. These results are based on serum and ACD plasma samples only and may not be indicative of performance with other sample types, such as whole blood, including finger stick blood.
3. The number of samples in the panel is a minimally viable sample size that still provides reasonable estimates and confidence intervals for test performance, and the samples used may not be representative of the antibody profile observed in patient populations.

MATRIX EQUIVALENCY

The equivalency of matrices and their effect on the performance of the ADEXUSDx® COVID-19 Test were evaluated using prospectively collected matched K2EDTA plasma (reference matrix), K2EDTA venous whole blood, and serum specimens from five (5) asymptomatic donors who tested negative for SARS-CoV-2 with an FDA authorized molecular assay and 5 positive K2EDTA plasma specimens obtained retrospectively. Each K2EDTA plasma positive specimen was spiked into one of the K2EDTA plasma negative specimens and also spiked into the matched K2 EDTA venous whole blood and serum negative specimens at the same dilutions factors to achieve low positive and moderate positive samples. Each spiked sample retained >= 90% of the original specimen matrix. The samples were tested in duplicate randomly by two operators who were blinded to the sample information, producing 20 results per concentration and a total of 60 results per matrix. The results of the K2EDTA venous whole blood and serum positive and negative samples were compared to the results of the matched K2EDTA plasma samples for each subject. The study results demonstrated 100% (40/40) positive agreement and 100% (20/20) negative agreement for each matrix compared to the reference matrix.

CROSS-REACTIVITY

Cross-reactivity of the ADEXUSDx® COVID-19 Test was evaluated by testing serum and plasma samples collected prior to December 2019 from individuals with underlying diseases

in the acute or convalescent stages of infection for the underlying condition. Devices from 1 lot were used in this study. No reactivity was detected with the potential cross reactants (see results in **Table 9**).

Table 9. List of Potential Cross-Reactants and Performance of the ADEXUSDx® COVID-19 Test in Cross-Reactivity Study.

Potential cross-reactant*	Results		
	n	+	-
ANA	5	0	5
Anti-Haemophilus influenzae (IgG)	5	0	5
Anti-Coronavirus NL63	4	0	4
Anti-Coronavirus 229E	5	0	5
Anti-OC43 (beta coronavirus)	5	0	5
Anti-HKU1 (beta coronavirus)	5	0	5
Anti-Hepatitis B	5	0	5
Anti-Hepatitis C	5	0	5
Anti-Influenza A	6	0	6
Anti-Influenza B	6	0	6
Anti-RSV IgG	5	0	5
Anti-RSV IgM	6	0	6
Anti-HIV	5	0	5
Total	**67**	**0**	**67**

**One sample contained potential reactants anti-RSV IgM and anti-coronavirus 229E. One sample contained potential reactants anti-RSV IgG, anti-RSV IgM and anti-coronavirus 229E. Three samples contained potential reactants anti-Influenza A and anti-Influenza B. One sample contained potential reactants anti-Influenza B and anti-RSV IgM. Five samples contained potential reactants anti-OC43 and anti-HKU1.*

INQUIRIES AND GENERAL INFORMATION:

Visit website c19development.com/

ORDERING INFORMATION:

Laboratories may contact c19development.com/order/ to place an order.

TECHNICAL INFORMATION:

Email techsupport@nowdx.com

MANUFACTURER:

NOWDiagnostics, Inc.
1200 Stewart Place
Springdale, AR 72764
Phone: 1-844-207-3370
E-mail Address: techsupport@nowdx.com or cc@nowdx.com
Website: www.nowdx.com

AUTHORIZED REPRESENTATIVE:

NOWDiagnostics Europe Srl
Via Campobello, 1 – 00071 Pomezia
Roma (Italy)
Phone: +39 06 87678028

SYMBOL LEGEND:

	Do Not Reuse
	Use by or Expiration Date
	Catalog Number or Product Code
	Manufacturer
	Consult Instructions for Use
	Store between 15°C – 30°C
	For in vitro diagnostic use only
	Lot Number
	Tests per kit
	Authorized Representative

PI-8075 V1.0