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5.1.2e

VTRUST COVID-19 Antigen Rapid Test (Model: TD-4531)

Clinical Evaluation Study

1. Purpose:

This clinical evaluation study is intended to evaluate the clinical sensitivity and clinical specificity of VTRUST COVID-19 Antigen Rapid Test (Model: TD-4531) by comparing the test results to an **FDA EUA RT-PCR test**.

Clinical sensitivity and specificity of fresh nasopharyngeal swab specimens will be measured by:

- (1) Trained CLIA moderate(M) or high(H) clinical laboratory personnel in CLIA moderate(M) or high(H) laboratory.
- (2) Non-laboratory personnel in point-of-care settings or near-patient sites.

Tests should demonstrate a minimum clinical sensitivity of $\geq 80\%$ for claimed sample types according to [FDA COVID-19 In Vitro Diagnostics EUA Antigen Template for Manufacturers \(May 11, 2020\)](#).

2. Comparison method:

This clinical evaluation study should use the SARS-CoV-2 molecular diagnostic test authorized by the FDA EUA as a comparison method: <https://www.fda.gov/medical-devices/coronavirus-disease-2019-covid-19-emergency-use-authorizations-medical-devices/itro-diagnostics-euas>

3. Study Site:

The requirements for the clinical site are as follows:

- a. Laboratories should have international qualification certificates (ex: CLIA / CAP / ISO 15189, etc.).
Laboratories are 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 or by **similarly qualified** non-U.S. laboratories and as applicable.
- b. **Point of Care (POC) or near-patient sites**, i.e., in patient care settings operating under a CLIA Certificate of Waiver, Certificate of Compliance, or Certificate of Accreditation.

4. Study Operator:

This clinical evaluation plan should be conducted by at least (but not limited to) 2 operator at each clinical site. The requirements for the operator are as follows:

- a. **Medical professional operators** from laboratories which certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA), 42 USC §263a, that meet the requirements to perform **high, moderate, or waived** complexity tests or by **similarly qualified** non-US laboratories and as applicable.
- b. **If the test is performed at the point of care (POC) or near-patient sites, the device operator should be non-laboratory medical personnel.**

5. Study Subjects:

After screening in accordance with the inclusion criteria and exclusion criteria, a minimum of **60** COVID-19 RT-PCR (+) specimens and **80** COVID-19 RT-PCR (-) specimens are recruited in this clinical evaluation plan in a randomized blinded fashion.

Inclusion Criteria:



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- a. Subjects are at least 18 years old.
- b. Subjects participating in this study were judged by the physician that have symptoms or signs compatible with COVID-19, including: fever, cough, shortness of breath, chills, muscle pain, loss of new taste or smell, vomiting or diarrhea and / or throat pain. The date of nasopharyngeal swab collection is **between 7 to 14 days after the subject has first symptoms or signs of COVID-19.** <https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html>
- c. Persons without symptoms who are prioritized by health departments or physicians, for any reason, including but not limited to: public health monitoring, sentinel surveillance, or screening of other asymptomatic individuals according to state and local plans. <https://www.cdc.gov/coronavirus/2019-nCoV/hcp/clinical-criteria.html>

Exclusion Criteria:

- a. Subjects are less than 18 years old.
- b. Subjects participated in other drug clinical research.
- c. Subjects suffers from any other conditions where the clinical evaluation cannot be followed and completed.

6. Study Overview:

Site	Operator	COVID-19 (+)	COVID-19 (+)
CLIA High/ Moderate Lab	operator 1	15 subjects	25 subjects
	operator 2	15 subjects	25 subjects
Point-of-care site (Near-patient site) CLIA Waiver	operator 1	15 subjects	15 subjects
	operator 2	15 subjects	15 subjects
Total	4 operators	60 subjects	80 subjects



TRUST COVID-19 Antigen Rapid Test

Model: TD-4531

- Easy to perform
- Fast results in 15 minutes
- Visual interpretation
- For In Vitro diagnostic use
- No need any special equipment
- Technical cooperation with Academia Sinica (Taiwan's top research institution)
- Prescription use only
- For use under the Emergency Use Authorization (EUA) only

Performance and Features


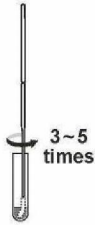
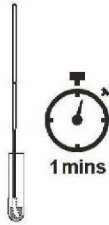
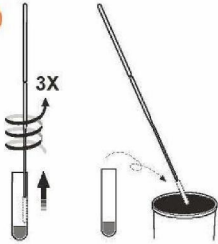
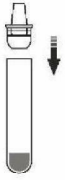
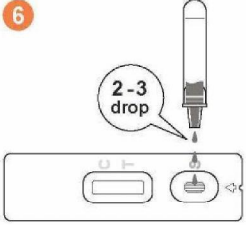
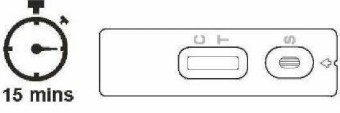
Test Principle	Lateral Flow Chromatographic Immunoassay
Target Antigen	SARS-CoV-2 Nucleocapsid Protein
Sample Type	Fresh Nasopharyngeal Swab Specimen
Reaction time	15 minutes

Box Contents:

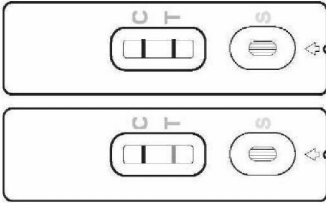
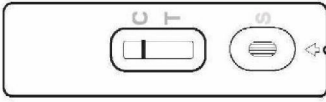
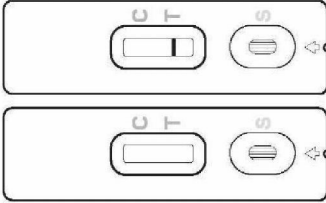
20-Test Kit/Box:

1. Sterile Nasopharyngeal Swabs (20)
2. Test Cassette (20)
3. Extraction Tube (20)
4. Extraction Tube Dropper (20)
5. Extraction Buffer (2)

Instruction for Use

<p>1</p>  <p>Add 10 drops (500 μL) of Extraction Buffer into the Extraction Tube.</p>	<p>2</p>  <p>3~5 times</p> <p>Immerse the patient nasopharyngeal swab sample into the extraction tube. Roll the swab at least 3 times while pressing the head against the bottom and side of the Extraction Tube.</p>	<p>3</p>  <p>1 mins</p> <p>Leave the swab in the extraction buffer for 1 minute.</p>	<p>4</p>  <p>3X</p> <p>When removing, roll the swab head toward the inside of the extraction tube. Dispose of the used swab in your biohazard waste.</p>
<p>5</p>  <p>Cover with the dripper and press tightly.</p>	<p>6</p>  <p>2-3 drop</p> <p>Add 2 drops (100 μL) of the processed sample into the sample well.</p>	<p>7</p>  <p>15 mins</p> <p>Visual interpretation at 15 minutes after the processed sample was added into the sample well. Do not read the result after 15 minutes.</p>	

Interpretation of Results

<p>Positive</p> 	<p>1 Positive result</p> <p>Both colored test line and colored control line appear on the test strip. Within the specified observation time, a weak colored test line should be judged as a positive result.</p>
<p>Negative</p> 	<p>2 Negative result</p> <p>Only the colored control line appears on the test strip. The absence of the test line indicates a negative result.</p>
<p>Invalid Assay</p> 	<p>3 Invalid result</p> <p>There should always be a colored control line in the control region regardless of test result. If control line is not seen, repeat the assay with a new device.</p>