

For professional use only.



**Read this package insert completely before using the product. Follow the instructions carefully when performing testing. Not doing so may result in inaccurate test results.**

### NAME AND INTENDED USE

The OraQuick *ADVANCE*<sup>®</sup> Rapid HIV-1/2 Antibody Test is a single-use, qualitative immunoassay to detect antibodies to Human Immunodeficiency Virus Type 1 (HIV-1) and Type 2 (HIV-2) in oral fluid, fingerstick whole blood, venipuncture whole blood and plasma specimens. The OraQuick *ADVANCE*<sup>®</sup> Rapid HIV-1/2 Antibody Test is intended for use as a point-of-care test to aid in the diagnosis of infection with HIV-1 and HIV-2.

### RESTRICTIONS

- **The OraQuick *ADVANCE*<sup>®</sup> Rapid HIV-1/2 Antibody Test is not approved for use to screen blood or tissue donors.**
- **The OraQuick *ADVANCE*<sup>®</sup> Rapid HIV-1/2 Antibody Test is not intended to be used to monitor individuals who are receiving highly active antiretroviral therapy.**

### SUMMARY AND EXPLANATION OF THE TEST

Acquired Immune Deficiency Syndrome (AIDS), AIDS related complex (ARC) and pre-AIDS are thought to be caused by the Human Immunodeficiency Virus (HIV). The first AIDS-related virus, HIV-1 (also known as HTLV-III, LAV-1 and ARV) has been isolated from patients with AIDS and from healthy persons at high risk for AIDS.<sup>1,2</sup> Genetic analysis of HIV-1 isolates has documented the existence of subtypes. To date, eight HIV-1 subtypes (A through H), designated as Group M, have been identified world-wide in addition to the highly divergent HIV-1 isolates from AIDS patients in Cameroon, designated as Group O.<sup>3</sup> A closely related but distinct second type of pathogenic human immunodeficiency retrovirus, designated HIV-2 (formerly LAV-2), has been isolated from West African patients with AIDS. HIV-2 has been shown to share a number of conserved sequences with HIV-1, but serological cross-reactivity between HIV-1 and HIV-2 has been shown to be highly variable from sample to sample.

HIV is known to be transmitted by sexual contact, by exposure to blood (including sharing contaminated needles and syringes) or by contaminated blood products, or it may be transmitted from an infected mother to her fetus during the prenatal period. Individuals infected with HIV produce antibodies against the HIV viral proteins. Testing for the presence of antibodies to HIV in bodily fluids (e.g., blood, oral fluid, and urine) is an accurate aid in the diagnosis of HIV infection. However, the implications of seropositivity must be considered in a clinical context. For example, in neonates, the presence of antibodies to HIV is indicative of exposure to HIV, but not necessarily of HIV infection, due to the acquisition of maternal antibodies that may persist for up to eighteen months. Conversely, absence of antibody to HIV cannot be taken as absolute proof that an individual is free of HIV infection or incapable of transmitting the virus. An antibody response to a recent exposure may take several months to reach detectable levels. HIV has been isolated from asymptomatic, seronegative individuals presumably before seroconversion following exposure.

### BIOLOGICAL PRINCIPLES OF THE TEST

The OraQuick *ADVANCE*<sup>®</sup> Rapid HIV-1/2 Antibody Test is a manually performed, visually read, 20 minute immunoassay for the qualitative detection of antibodies to HIV-1 and HIV-2 in human oral fluid, whole blood obtained from a finger puncture or a venipuncture, and plasma. The OraQuick *ADVANCE*<sup>®</sup> rapid test is comprised of a single-use test device and a single-use vial containing a pre-measured amount of a buffered developer solution. Each component is sealed in separate compartments of a single pouch to form the test. OraQuick *ADVANCE*<sup>®</sup> rapid test utilizes a proprietary lateral flow immunoassay procedure. The device plastic housing holds an assay test strip comprised of several materials that provide the matrix for the immunochromatography of the specimen and the platform for indication of the test results.

The assay test strip, which can be viewed through the test device result window, contains synthetic peptides representing the HIV envelope region and a goat anti-human IgG procedural control immobilized onto a nitrocellulose membrane in the Test (T) zone and the Control (C) zone, respectively.

An oral fluid specimen is collected using the flat pad on the test device, followed by the insertion of the test device into the vial of developer solution. A fingerstick whole blood, venipuncture whole blood or plasma specimen is collected and transferred into the vial of developer solution, followed by the insertion of the test device. The developer solution facilitates the flow of the specimen into the device and onto the test strip. As the diluted specimen flows through the device, it rehydrates the protein-A gold colorimetric reagent contained in the device. As the specimen continues to migrate up the strip, it encounters the T zone. If the specimen contains antibodies that react with the antigens immobilized on the nitrocellulose membrane, a reddish-purple line will appear, qualitatively indicating the presence of antibodies to HIV-1 and/or HIV-2 in the specimen. The intensity of the line color is not directly proportional to the amount of antibody present in the specimen.

Further up the assay strip, the sample will encounter the C zone. This built-in procedural control serves to demonstrate that a specimen was added to the vial and that the fluid has migrated adequately through the test device. A reddish-purple line will appear in the C zone during the performance of all valid tests, whether or not the sample is positive or negative for antibodies to HIV-1 and/or HIV-2 (refer to the *Test Result and Interpretation of Test Result section*).

The test results are interpreted after 20 minutes but not more than 40 minutes after the introduction of the test device into the developer solution containing the test specimen. Only one read of the device is required for an accurate result. Any line seen at the "T" or Test Line between 20 minutes and 40 minutes should be considered reactive, regardless of when the test is read.

No precision pipeting, predilutions, or specialized instrumentation are required to perform the OraQuick *ADVANCE*<sup>®</sup> Rapid HIV-1/2 Antibody Test.

**MATERIALS PROVIDED**

OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test Kits are available in the following packaging configurations:

Components of Kit	Component Active Ingredient or Approved Literature	100 ct. kit REF 1001-0157	25 ct. kit REF 1001-0156
Divided Pouches, each containing: Test Device (1) Absorbent Packet (1) Dev. Solution Vial (1)		100	25
Test Device	Human Immunodeficiency HIV-1 and HIV-2 Peptides Biotinylated - Source Synthetically Derived		
Developer Sol. Vial	Each vial contain 1 mL of a phosphate buffered saline solution containing polymers and an antimicrobial agent		
Absorbent Packet	.5g molecular sieve		
Reusable Test Stands	Medical Grade Plastic	10	5
Specimen Collection Loops	Medical Grade Plastic	100	25
Subject Information Pamphlets	3001-1357	100	25
Instructions for Use	3001-1674	100	25
Package Insert	3001-1355	1	1

**MATERIALS REQUIRED AND AVAILABLE AS AN ACCESSORY TO THE KIT**

OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test Kit Controls –

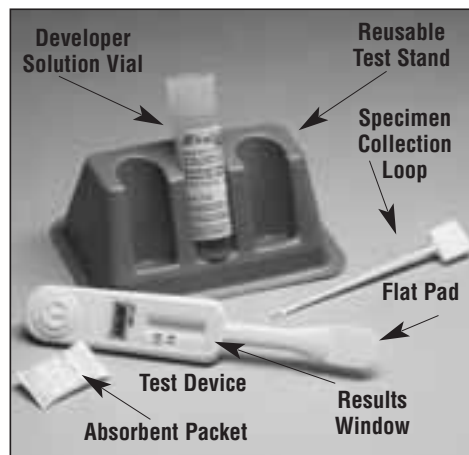
REF 1001-0121. Package REF (1001-0121) contains HIV-1 Positive Control (1 vial, black cap, 0.2 mL), HIV-2 Positive Control (1 vial, red cap, 0.2 mL) and Negative Control (1 vial, white cap, 0.2 mL), and a Package Insert (P/N 3001-1363).

**MATERIALS REQUIRED BUT NOT PROVIDED**

Timer or watch capable of timing 20 to 40 minutes  
Clean, disposable, absorbent workspace cover  
Biohazard waste container

**Additional items required for fingerstick and venipuncture whole blood collection, and plasma specimens:**

Antiseptic wipe  
Sterile lancet to obtain a fingerstick whole blood specimen, or materials required to obtain a venipuncture whole blood specimen  
Sterile gauze pads  
Latex, vinyl or nitrile disposable gloves  
Centrifuge to process a plasma specimen

**WARNINGS****For *in vitro* Diagnostic Use**

1. Read the package insert completely before using the product. Follow the instructions carefully. Not doing so may result in inaccurate test results.
2. This kit has been approved for use with oral fluid, fingerstick whole blood, venipuncture whole blood, and plasma specimens only. Use of this test kit with specimen types other than those specifically approved for use with this device may result in inaccurate test results.
3. This test should be performed at temperatures in the range of 15-37°C. If stored refrigerated, ensure that the Divided Pouch is brought to operating temperature (15-37°C) before performing testing.
4. If the test kit is stored at temperatures outside of ambient temperature (2-27°C), or used outside of the operating temperature (15-37°C), use the Kit Controls to ensure performance of the test.
5. Individuals infected with HIV-1 and/or HIV-2 who are receiving highly active antiretroviral therapy (HAART) may produce false negative results.

## PRECAUTIONS

### Safety Precautions

1. Handle all specimens and materials contacting test specimens as if capable of transmitting infectious agents.
2. Do not drink, eat, or smoke in areas where specimens are being handled or testing is being performed.
3. Wear disposable gloves while handling blood specimens and performing testing of blood specimens. Change gloves and wash hands thoroughly after performing each test. Dispose of used gloves in a biohazard waste container.
4. Use of gloves for oral fluid testing is recommended as any biologic specimen should be treated as potentially infectious. Test administrators with breaks in the skin (cuts, abrasions, or dermatitis) should wear gloves when performing oral fluid testing. Wash hands thoroughly after performing each oral fluid test and after contact with oral fluid.
5. Dispose of all test specimens and materials used in the test procedure in a biohazard waste container. Lancets and venipuncture materials should be placed in a puncture-resistant container prior to disposal. The recommended method of disposal of biohazard waste is autoclaving for a minimum of 1 hour at 121°C. Disposable materials may be incinerated. Liquid wastes may be mixed with appropriate chemical disinfectants. A freshly prepared solution of 10% bleach (0.5% solution of sodium hypochlorite) is recommended. Allow 60 minutes for effective decontamination. **NOTE: Do not autoclave solutions that contain bleach.**
6. Wipe all spills thoroughly with a solution of 10% bleach or other appropriate disinfectant.<sup>4</sup> Bleach solutions should be made fresh each day.

### Handling Precautions

1. Use all Specimen Collection Loops, Test Devices, and Developer Solution Vials only once and dispose of properly (see Safety Precautions). **Do not reuse any of these test components.**
2. The pouched device has a stability dating of 12 months that is assigned at the time of manufacture. **Do not use the test beyond the expiration date printed on the Divided Pouch. Always check expiration date prior to testing.**
3. Inspect the Divided Pouch. If the Divided Pouch has been damaged, discard the Divided Pouch and its contents and select a new Divided Pouch for testing.
4. Do not interchange Test Devices and Developer Solution Vials from kits with different lot numbers.
5. Avoid microbial contamination and exercise care in handling the kit components.
6. To ensure accurate results, the Test Device must be inserted into the Developer Solution Vial within 60 minutes after introducing the fingerstick whole blood, venipuncture whole blood or plasma sample.
7. When collecting oral fluid specimens the Test Device must be inserted into the Developer Solution Vial within 30 minutes of collection. A Test Device containing an oral fluid specimen that is not inserted into the Developer Solution Vial within 10 minutes of collection should be either stored on a flat surface or returned to the Divided Pouch after the desiccant has been removed from the Divided Pouch. For a 10-30 minute delay in insertion, return the Test Device containing the oral fluid specimen to the Divided Pouch after the desiccant has been removed from the Divided Pouch. Ensure that the Divided Pouch containing the Test Device is kept in a horizontal position until the Test Device is inserted into the Developer Solution Vial.
8. Adequate lighting is required to read a test result.

## STORAGE INSTRUCTIONS

The product has a twelve (12) month dating applied from the date of manufacture. Do not use expired product. Testing should be invalidated and that testing repeated if expired kits are used. Store unused OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Tests unopened at 2-27°C. Do not open the Divided Pouch until you are ready to perform a test. If stored refrigerated, ensure that the Divided Pouch is brought to operating temperature (15-37°C) before opening.

## DIRECTIONS FOR USE

### SET UP YOUR WORKSPACE

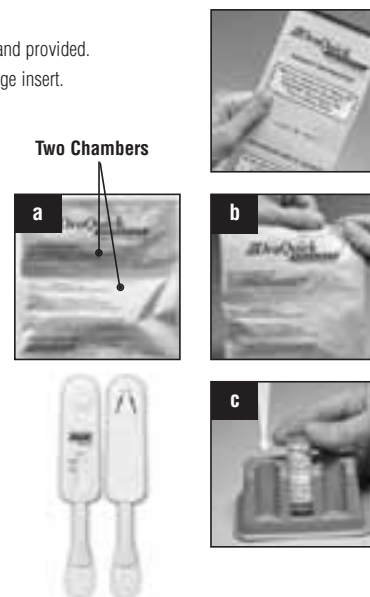
- Gather the materials you will need.
- Allow the test kit to come to operating temperature (15-37°C) before use.
- Refer to the *External Quality Control* section in this package insert to determine when the Kit Controls should be run.
- Cover your workspace with a clean, disposable, absorbent workspace cover.
- Set an OraQuick *ADVANCE*® Reusable Test Stand ("Stand") up on your workspace cover. Use only the stand provided.
- Put on your disposable gloves as required in accordance with the *Safety Precautions* section in this package insert.

**Prior to testing provide the "Subject Information" pamphlet to the person being tested.**

### GENERAL TEST PREPARATION

1. Open the two chambers of the OraQuick *ADVANCE*® Divided Pouch ("Pouch") by tearing at the notches on the top of each side of the Pouch (see picture a and b). To prevent contamination, leave the Test Device ("Device") in the Pouch until you are ready to use it.
2. Remove the Developer Solution Vial ("Vial") from the Pouch. Hold the Vial firmly in your hand. Carefully remove the cap from the Vial by gently rocking the cap back and forth while pulling it off. Set the cap on your workspace cover.
3. Slide the Vial into the top of one of the slots in the Stand. **DO NOT** force the vial into the Stand from the front of the slot as splashing may occur. Make sure the Vial is pushed all the way to the bottom of the slot in the stand (see picture c).

**NOTE: DO NOT cover the two holes in the back of the Device with labels or other materials. Doing so may cause an invalid result.**



## SPECIMEN COLLECTION AND TESTING PROCEDURE

The OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test can be used for testing oral fluid, fingerstick whole blood, venipuncture whole blood, and plasma specimens. Refer to the specific testing procedure below.

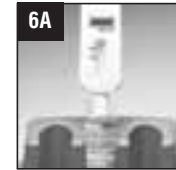
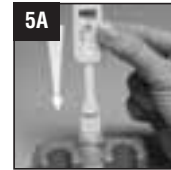
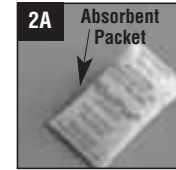
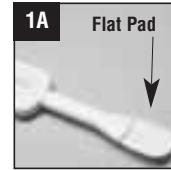
### ORAL FLUID PROCEDURE

#### STEP 1: COLLECT

1. Have the person being tested remove the Device from its Pouch. **DO NOT** allow the person to touch the Flat Pad (see picture 1A). Check to make sure that an Absorbent Packet is included with the Device (see picture 2A). If no Absorbent Packet is present, discard the Device and obtain a new Pouch for testing.
2. Direct the person to place the Flat Pad above the teeth against the outer gum. Direct the person to gently swab completely around the outer gums, both upper and lower, one time around, using the Flat Pad (see pictures 3A and 4A). **DO NOT** allow the person to swab the roof of the mouth, the inside of the cheek or the tongue. **NOTE:** Both sides of the Flat Pad may be used during this procedure.

#### STEP 2: TEST

1. Instruct the person being tested to insert the Flat Pad of the Device all the way into the Vial (see picture 5A). Make sure that the Flat Pad touches the bottom of the Vial. The Result Window on the Device should be facing towards you (see picture 6A).
2. Start timing the test (see picture 7A). **DO NOT** remove the Device from the Vial while the test is running. Pink fluid will appear and travel up the Result Window. The pink fluid will gradually disappear as the test develops (see picture 8A). Read the results after 20 minutes but not more than 40 minutes in a fully lighted area.
3. Refer to the *Test Result and Interpretation of Test Result* section in this package insert.



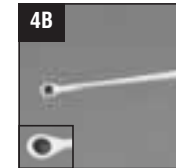
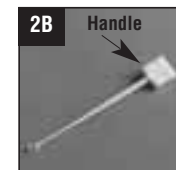
### FINGERSTICK WHOLE BLOOD AND VENIPUNCTURE WHOLE BLOOD PROCEDURE

#### STEP 1: COLLECT

Whole blood specimens may be collected either by fingerstick (see Step 1.A) or by venipuncture (see Step 1.B).

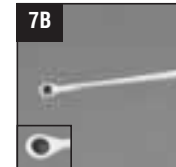
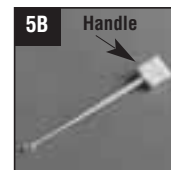
##### STEP 1.A: FINGERSTICK WHOLE BLOOD

1. Using an antiseptic wipe, clean the finger of the person being tested. Allow the finger to dry thoroughly or wipe dry with a sterile gauze pad. Using a sterile lancet, puncture the skin just off the center of the finger pad. Hold the finger downward. Apply gentle pressure beside the point of the puncture. Avoid squeezing the finger to make it bleed (see picture 1B). Wipe away this first drop of blood with a sterile gauze pad. Allow a new drop of blood to form.
2. Pick up an unused Specimen Collection Loop ("Loop") by the thick "handle" end (see picture 2B). Put the "rounded" end of the Loop on the drop of blood (see picture 3B). Make sure that the Loop is completely filled with blood (see picture 4B). **NOTE:** If the Loop is dropped or comes in contact with any other surface, discard it in a biohazard waste container. Get a new Loop for the collection of the blood sample.



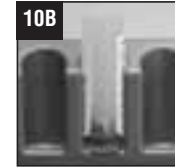
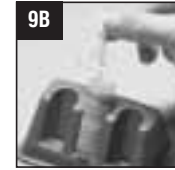
##### STEP 1.B: VENIPUNCTURE WHOLE BLOOD

1. Using standard venous phlebotomy procedures, collect a whole blood sample using a tube containing any of the following anticoagulants: EDTA (lavender top), sodium and lithium heparin (green top), or sodium citrate (light blue top). **Other anticoagulants have not been tested and may give an incorrect result.** If the specimens are not tested at the time of collection, the whole blood may be stored at 2°–30°C for up to 24 hours. Prior to testing, mix the blood tube gently by inversion several times to ensure a homogeneous sample.
2. Pick up an unused Specimen Collection Loop ("Loop") by the thick "handle" end (see picture 5B). Put the "rounded" end of the Loop into the tube of blood (see picture 6B). Make sure that the Loop is completely filled with blood (see picture 7B). **NOTE:** If the Loop is dropped or comes in contact with any other surface, discard it in a biohazard waste container. Get a new Loop for the collection of the blood sample.



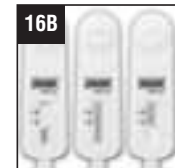
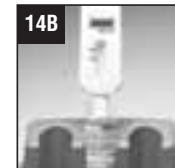
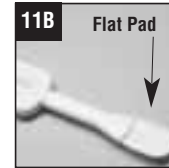
**STEP 2: MIX**

1. Immediately insert the blood-filled end of the Loop all the way into the Vial (see picture 8B). Use the Loop to stir the blood sample in the Developer Solution ("Solution") (see picture 9B). Remove the used Loop from the Solution. Throw the used Loop away in a biohazard waste container.
2. Check the Solution to make sure that it appears pink. This means that the blood was correctly mixed into the Solution (see picture 10B). If the Solution is not pink, discard all test materials in a biohazard waste container. Start the test over. Use a new Pouch and a new blood sample.



**STEP 3: TEST**

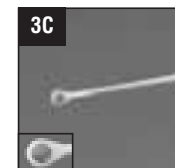
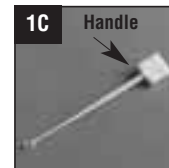
1. Remove the Device from the Pouch. **DO NOT** touch the Flat Pad (see picture 11B). Check to make sure that an Absorbent Packet is included with the Device (see picture 12B). If no Absorbent Packet is present, discard the Device and obtain a new Pouch for testing.
2. Insert the Flat Pad of the Device all the way into the Vial containing the blood sample (see picture 13B). Make sure that the Flat Pad touches the bottom of the Vial. The Result Window on the Device should be facing towards you (see picture 14B).
3. Start timing the test (see picture 15B). **DO NOT** remove the Device from the Vial while the test is running. Pink fluid will appear and travel up the Result Window. The pink fluid will gradually disappear as the test develops (see picture 16B). Read the results after 20 minutes but not more than 40 minutes in a fully lighted area.
4. Refer to the *Test Result and Interpretation of Test Result* section in this package insert.



**PLASMA PROCEDURE**

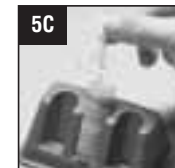
**STEP 1: COLLECT**

1. Using standard venous phlebotomy procedures, collect a whole blood sample using a tube containing EDTA (lavender top), sodium and lithium heparin (green top), or sodium citrate (light blue top) anticoagulant. **Other anticoagulants have not been tested and may give an incorrect result.** If the specimens are not tested at the time of collection, the specimen may be stored as whole blood for up to 24 hours at 2°–30°C. Plasma specimens using test tubes containing sodium and lithium heparin or sodium citrate may also be stored up to 24 hours at 2°–30°C. Plasma specimens using an EDTA test tube may be stored for up to 7 days at 2°–8°C.
2. Centrifuge the tube of blood (1000-1300 x g, for approximately 5 minutes, no refrigeration required) to separate the cells from the plasma. Carefully uncapped the tube by gently rocking the stopper towards you so that it vents away from you.
3. Pick up an unused Specimen Collection Loop ("Loop") by the thick "handle" end (see picture 1C). Put the "rounded" end of the Loop into the tube of plasma (see picture 2C). Make sure that the Loop is completely filled with plasma (see picture 3C). **NOTE:** If the Loop is dropped or comes in contact with any other surface, discard it in a biohazard waste container. Get a new Loop for the collection of the plasma sample.



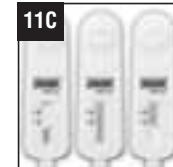
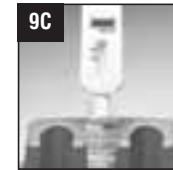
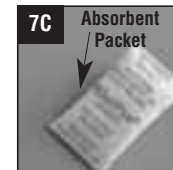
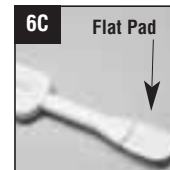
**STEP 2: MIX**

1. Immediately insert the plasma-filled end of the Loop all the way into the Vial (see picture 4C). Use the Loop to stir the plasma sample in the Developer Solution ("Solution") (see picture 5C). Remove the used Loop from the Solution. Throw the used Loop away in a biohazard waste container.



**STEP 3: TEST**

1. Remove the Device from the Pouch. **DO NOT** touch the Flat Pad (*see picture 6C*). Check to make sure that an Absorbent Packet is included with the Device (*see picture 7C*). If no Absorbent Packet is present, discard the Device and obtain a new Pouch for testing.
2. Insert the Flat Pad of the Device all the way into the Vial containing the blood sample (*see picture 8C*). Make sure that the Flat Pad touches the bottom of the Vial. The Result Window on the Device should be facing towards you (*see picture 9C*).
3. Start timing the test (*see picture 10C*). **DO NOT** remove the Device from the Vial while the test is running. Pink fluid will appear and travel up the Result Window. The pink fluid will gradually disappear as the test develops (*see picture 11C*). Read the results after 20 minutes but not more than 40 minutes in a fully lighted area.
4. Refer to the *Test Result and Interpretation of Test Result* section in this package insert.

**GENERAL TEST CLEAN-UP**

1. Dispose of the used test materials in a biohazard waste container.
2. When using gloves, change your gloves between each test to prevent contamination. Throw away the used gloves in a biohazard waste container.
3. Use a freshly prepared 10% solution of bleach to clean up any spills.

**QUALITY CONTROL****Built-in Control Features**

The OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test has a built-in procedural control that demonstrates assay validity. A reddish-purple line in the Control ("C") area of the Result Window indicates that a specimen was added and that the fluid migrated appropriately through the Test Device. The Control line will appear on all valid tests, whether or not the sample is reactive or non-reactive. (Refer to *Test Result and Interpretation of Test Result* section below.)

**External Quality Control**

OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test Kit Controls are available separately for use only with the OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test. The Kit Controls are specifically formulated and manufactured to ensure performance of the Test, and are used to verify your ability to properly perform the test and interpret the results. The HIV-1 and HIV-2 Positive Controls will produce a reactive test result and have been manufactured to produce a very faint Test ("T") line. The Negative Control will produce a non-reactive test result. (Refer to *Test Result and Interpretation of Test Result* section below.) Use of kit control reagents manufactured by any other source may not produce the required results, and therefore, will not meet the requirements for an adequate quality assurance program for the OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test.

**Run the Kit Controls under the following circumstances:**

- Each new operator prior to performing testing on patient specimens,
- When opening a new test kit lot,
- Whenever a new shipment of test kits is received,
- If the temperature of the test kit storage area falls outside of 2°-27°C,
- If the temperature of the testing area falls outside of 15°-37°C, and
- At periodic intervals as dictated by the user facility.

Refer to the OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test Kit Controls package insert for instructions on the use of these reagents. It is the responsibility of each laboratory using the OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test to establish an adequate quality assurance program to ensure the performance of the device under its specific locations and conditions of use. Contact OraSure Technologies' Customer Service if the Kit Control reagents do not produce the expected results.

**TEST RESULT AND INTERPRETATION OF TEST RESULT****Refer to the Result Window on the Test Device.****NON-REACTIVE**

The diagram at the right shows an example of a **Non-Reactive** test result.

A test is **Non-Reactive** if:

a reddish-purple line appears next to the triangle labeled "C", **and NO** line appears next to the triangle labeled "T".

A **Non-Reactive** test result means that HIV-1 and HIV-2 antibodies were not detected in the specimen. The test result is interpreted as **NEGATIVE for HIV-1 and HIV-2 antibodies**.

**REACTIVE**

The diagrams at the right show examples of a **Reactive** test result.

A test is **Reactive** if:

a reddish-purple line appears next to the triangle labeled "C" **and** a reddish-purple line appears next to the triangle labeled "T". One of these lines may be darker than the other.

**NOTE:** The test is **Reactive** if **any** reddish-purple line appears next to the "T" triangle **and** next to the "C" triangle, no matter how faint these lines are.

A **Reactive** test result means that HIV-1 and/or HIV-2 antibodies have been detected in the specimen. The test result is interpreted as **PRELIMINARY POSITIVE for HIV-1 and/or HIV-2 antibodies**. **Confirmation of a reactive result by another test method(s) is recommended.**



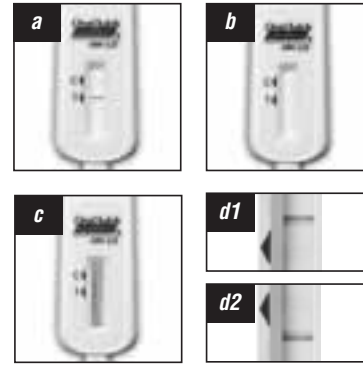
**INVALID**

The diagrams at the right show examples of an **Invalid** test result.

A test is **Invalid** if any of the following occurs:

- **NO** reddish-purple line appears next to the triangle labeled “C” (see picture a and b), or
- a red background in the Result Window makes it difficult to read the result after 20 minutes (see picture c), or
- if any of the lines are NOT inside the “C” or “T” triangle areas (see picture d1 and d2)

An **Invalid** test result means that there was a problem running the test, either related to the specimen or to the Test Device. An **Invalid** result cannot be interpreted. **Repeat the test with a new Divided Pouch and a new oral fluid, fingerstick or venipuncture whole blood, or plasma sample. Contact OraSure Technologies' Customer Service if you are unable to get a valid test result upon repeat testing.**



**LIMITATIONS OF THE TEST**

1. The OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test must be used in accordance with the instructions in this package insert to obtain an accurate result.
2. Reading test results earlier than 20 minutes or later than 40 minutes may yield erroneous results.
3. Only one read of the device between 20 minutes and 40 minutes is required. Should the package insert instructions not be followed and the device read at multiple points, any line seen at the “T” or Test Line between 20 minutes and 40 minutes should be considered reactive, regardless of when the test is read and the test repeated.
4. This test is approved for use with oral fluid, fingerstick whole blood, venipuncture whole blood, and plasma specimens only. Use of other types of specimens, testing of venipuncture whole blood or testing of plasma specimens collected using a tube containing an anticoagulant other than EDTA, sodium and lithium heparin, or sodium citrate may not yield accurate results.
5. Individuals infected with HIV-1 or HIV-2 who are receiving highly active antiretroviral therapy (HAART) may produce false negative results.
6. The OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test is not intended to be used to monitor individuals who are receiving highly active antiretroviral therapy.
7. Clinical data has not been collected to demonstrate the performance of the OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test in persons under 12 years of age.
8. A reactive result using the OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test suggests the presence of HIV-1 and/or HIV-2 antibodies in the specimen. The OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test is intended as an aid in the diagnosis of infection with HIV-1 and/or HIV-2. AIDS and AIDS-related conditions are clinical syndromes and their diagnosis can only be established clinically.
9. For a reactive result, the intensity of the test line does not necessarily correlate with the titer of antibody in the specimen.
10. A non-reactive result does not preclude the possibility of exposure to HIV or infection with HIV. An antibody response to recent exposure may take several months to reach detectable levels.
11. A person who has antibodies to HIV-1 or HIV-2 is presumed to be infected with the virus, except that a person who has participated in an HIV vaccine study may develop antibodies to the vaccine and may or may not be infected with HIV. Clinical correlation is indicated with appropriate counseling, medical evaluation and possibly additional testing to decide whether a diagnosis of HIV infection is accurate.

**PERFORMANCE CHARACTERISTICS**

**SENSITIVITY**

**Detection of Antibodies to HIV-1 in Specimens From Individuals Infected with HIV-1**

**ORAL FLUID**

A sensitivity study was performed using freshly obtained oral fluid specimens collected from 588 individuals reported to be infected with HIV-1. Of the 597 specimens that were identified as seropositive using licensed confirmatory testing, 597 gave a reactive result on the OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test. The results of this study are shown in Table 1.

**TABLE 1**  
**Detection of Antibody to HIV-1 in Oral Fluid Specimens from HIV-1 Seropositive Individuals**

Test Group	Total Samples	OraQuick <i>ADVANCE</i> ® Reactive	True Positive
Known HIV-1 Positive	597	597	597

The sensitivity of the OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test in oral fluid specimens was calculated to be 597/597= 100%.

**PLASMA**

A sensitivity study was performed at eleven clinical trial sites using EDTA-plasma specimens collected from 728 individuals reported to be infected with HIV-1. Of the 728 specimens that were identified as seropositive by EIA and licensed confirmatory testing, 728 gave a reactive result on the OraQuick *ADVANCE*<sup>®</sup> Rapid HIV-1/2 Antibody Test. The results of this study are shown in Table 2.

**TABLE 2**  
**Detection of Antibody to HIV-1 in Plasma Specimens from HIV-1 Seropositive Individuals**

Test Group	Total Samples	OraQuick <i>ADVANCE</i> <sup>®</sup> Reactive	True Positive
Known HIV-1 Positive	728	728	728

**WHOLE BLOOD**

A sensitivity study was performed using freshly obtained fingerstick and/or tube whole blood samples from 543 individuals known to be infected with HIV-1. Of the 543 specimens that resolved as true positive using a licensed EIA and Western blot/IFA, 543 gave a reactive result on the OraQuick *ADVANCE*<sup>®</sup> Rapid HIV-1/2 Antibody Test. The results of this study are shown in Table 3.

**TABLE 3**  
**Detection of Antibody to HIV-1 in Whole Blood Samples from HIV-1 Seropositive Individuals**

Test Group	Total Samples	OraQuick <i>ADVANCE</i> <sup>®</sup> Reactive	True Positive
Known HIV-1 Positive	543	543	543

**Reactivity with HIV-1 Specimens From Various Geographic Regions**

To assess the sensitivity of the OraQuick *ADVANCE*<sup>®</sup> Rapid HIV-1/2 Antibody Test for HIV-1 specimens from various geographic regions, 119 specimens representing HIV-1 Subtypes A, B, C, D, E, F, G, H, J and Group O were tested and all were reactive on OraQuick *ADVANCE*<sup>®</sup>.

**Reactivity with HIV-1 Seroconversion Panels**

Thirty HIV-1 seroconversion panels were tested in comparison with CE marked anti-HIV EIA tests. Each panel consisted of sequential serum/plasma specimens obtained from a single individual during seroconversion. The thirty seroconversion panels consisted of 235 specimens. The results of this study are shown in Table 4. In this study, the OraQuick *ADVANCE*<sup>®</sup> Rapid HIV-1/2 Antibody Test detected seroconversion, on average, at approximately the same time as the CE marked EIA.

**TABLE 4**  
**Comparison of the OraQuick *ADVANCE*<sup>®</sup> Rapid HIV-1/2 Antibody Test and Licensed Anti-HIV EIA Tests Using Seroconversion Panels**

Number of Panels	RESULTS
17	OraQuick <sup>®</sup> = Reference EIA
13	OraQuick <sup>®</sup> < Reference EIA

**The average differential was 2.5 days later (95% CIs: 1.2 to 3.8 days) for the OraQuick *ADVANCE*<sup>®</sup> Rapid HIV-1/2 assay.**

**Detection of Antibodies to HIV-2 in Specimens From Individuals Infected with HIV-2**

A total of 104 repository specimens confirmed to be HIV-2 antibody positive by licensed HIV-2 EIA and supplemental test methods including Western blot and RIPA were obtained from various sources. OraQuick *ADVANCE*<sup>®</sup> detected 104/104 (100%) of the specimens from individuals confirmed as positive for HIV-2 antibodies (see Table 5).

Two additional studies were performed to assess the sensitivity of OraQuick *ADVANCE*<sup>®</sup> in a known HIV-2 population. 3 HIV-2 infected individuals located in the USA and 13 HIV-2 infected individuals located in Guinea-Bissau, Africa were tested by fingerstick whole blood and oral fluid OraQuick *ADVANCE*<sup>®</sup> tests. Fingerstick whole blood and oral fluid samples from all subjects were reactive on the OraQuick *ADVANCE*<sup>®</sup> test. Table 5 shows a summary of the results.

**TABLE 5**  
**Detection of Antibody to HIV-2 in Samples from HIV-2 Seropositive Individuals and Individuals at High Risk of HIV-2 Infection**

Test Group	Total Samples	OraQuick <i>ADVANCE</i> ® Reactive	True HIV-2 Positive
Known HIV-2 Positive Repository Specimens	104	104	104
Known HIV-2 Positive - United States	3	3	3
Known HIV-2 Positive - Guinea-Bissau	13	13	13
TOTAL	120	120	120

Combining the number of OraQuick *ADVANCE*® reactive results obtained from all studies, the sensitivity of the OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test for the detection of antibodies to HIV-2 was calculated to be 120/120 = 100%.

## SPECIFICITY

### ORAL FLUID

A specificity study was performed at four clinical trial sites using freshly obtained oral fluid specimens collected from 606 previously unscreened individuals at low risk for HIV-1 infection. All of the 606 specimens were correctly non-reactive using the OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test. Of the 106 HIV antibody-negative specimens from the four study sites that examined populations at high risk for HIV-1 infection, the OraQuick *ADVANCE*® test was non-reactive for 105. The results are summarized in Table 6.

**TABLE 6**  
**Performance of the OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test on Oral Fluid Specimens from Individuals Presumed to be Negative for HIV Infection**

Test Group	Total Samples	OraQuick <i>ADVANCE</i> ® Non-Reactive	True Negative
Low-Risk	606	606	606
High-Risk	107	105	106
High-Risk CDC	1679	1662	1666
TOTAL	2392	2373	2378

A separate study conducted by the Centers for Disease Control and Prevention (CDC) evaluated oral fluid samples collected from 1679 individuals of unknown HIV status. OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test gave non-reactive results for 1662 of the 1666 specimens identified as true negative samples.

Combining the number of OraQuick *ADVANCE*® non-reactive results obtained from the study of the low-risk populations with the number of OraQuick *ADVANCE*® non-reactive results obtained from the study of the high-risk populations and with the information obtained by the CDC, the specificity of the OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test in these studies was calculated to be 2373/2378=99.8%.

### PLASMA

A specificity study was performed at seven clinical trial sites using EDTA-plasma specimens collected from 1657 previously unscreened individuals at low and high risk for HIV infection. Of the 1657 specimens, 1642 were determined to be HIV negative based on results from licensed EIA and supplemental testing. All 1642 gave non-reactive results using the OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test. The results of these studies are shown in Table 7.

**TABLE 7**  
**Performance of the OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test on Plasma Specimens from Individuals Presumed to be Negative for HIV Infection**

Test Group	Total Samples	OraQuick <i>ADVANCE</i> ® Non-Reactive	True Negative
Low-Risk	1118	1118	1118
High-Risk	539	524	524
TOTAL	1657	1642	1642

Combining the number of OraQuick *ADVANCE*® non-reactive results obtained from all studies, the specificity of the OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test in these studies was calculated to be 1642/1642 = 100%.

**FINGERSTICK WHOLE BLOOD**

A specificity study was performed using freshly obtained fingerstick whole blood samples from 2189 previously untested individuals at low and high risk for HIV-1 infection. Of the 2189, 2166 were determined to be negative samples using EIA and supplemental testing. All true negative specimens gave non-reactive results using the OraQuick *ADVANCE*<sup>®</sup> Rapid HIV-1/2 Antibody Test for a specificity of 100%. The results of this study are shown in Table 8.

**TABLE 8**  
**Performance of the OraQuick *ADVANCE*<sup>®</sup> Rapid HIV-1/2 Antibody Test on Fingerstick Whole Blood Specimens from Individuals Presumed to be Negative for HIV Infection**

Test Group	Total Samples	OraQuick <i>ADVANCE</i> <sup>®</sup> Non-Reactive	True Negative
Low-Risk	1541	1536	1536
High-Risk	648	630	630
TOTAL	2189	2166	2166

**INTERFERING SUBSTANCES AND UNRELATED MEDICAL CONDITIONS**

To assess the impact of unrelated medical conditions or interfering substances on the sensitivity of the OraQuick *ADVANCE*<sup>®</sup> Rapid HIV-1/2 Antibody Test, 200 serum/plasma specimens from a variety of medical conditions unrelated to HIV-1 infection and 100 specimens with interfering substances were spiked with an HIV-1 positive specimen to give a level of reactivity in the low positive range (see list of medical conditions and interfering substances in Table 10). All spiked specimens gave reactive results.

In addition, a study was performed to assess the potential effect of anticoagulants on assay performance. Venipuncture whole blood specimens were collected from 59 presumed negative subjects in each of 4 tubes containing one of four anticoagulants (EDTA, sodium heparin, sodium citrate and lithium heparin). One of each of the four tubes was spiked with an HIV-1 positive specimen to give a level of reactivity in the low positive range for both venous whole blood and plasma specimens. The second tube for both venous whole blood and plasma specimens (unspiked) and the spiked samples were then aliquoted and stored either refrigerated (2°-8°C) or at room temperature (30°C). There was no anticoagulant-specific effect observed on assay performance with samples held up to 24 hours at 2°-30°C. The results of this study are shown in Table 9.

**TABLE 9**  
**Performance of the OraQuick *ADVANCE*<sup>®</sup> Rapid HIV-1/2 Antibody Test in Venous Whole Blood and Plasma Specimens Collected with Various Anticoagulants**

Effects of Anticoagulants on Positive Specimens	OraQuick <i>ADVANCE</i> <sup>®</sup> Results	
	Reactive	Non-Reactive
Sodium Heparin <sup>1</sup>	59	0
EDTA <sup>1</sup>	59	0
Sodium Citrate <sup>1</sup>	59	0
Lithium Heparin <sup>1</sup>	59	0
Effects of Anticoagulants on Negative Specimens	OraQuick <i>ADVANCE</i> <sup>®</sup> Results	
	Reactive	Non-Reactive
Sodium Heparin <sup>1</sup>	0	59
EDTA <sup>1</sup>	0	59
Sodium Citrate <sup>1</sup>	0	59
Lithium Heparin <sup>1</sup>	0	59

<sup>1</sup>The OraQuick *ADVANCE*<sup>®</sup> assay maximum read time for these specimens was 40 minutes.

To assess the impact of unrelated medical conditions or interfering substances on the specificity of the OraQuick *ADVANCE*<sup>®</sup> Rapid HIV-1/2 Antibody Test, 321 serum/plasma specimens from a variety of medical conditions unrelated to HIV infection and 119 specimens with interfering substances were analyzed. The results of this study are shown in Table 10. One specimen from subjects known to be positive for EBV, for HBV, or for rheumatoid factor, one from a multiparous woman, and three specimens from known HAV infected subjects gave false positive results.

**TABLE 10**  
**OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test Reactivity with Plasma Specimens from Individuals with Potentially Interfering Medical Conditions and Specimens with Interfering Substances**











Medical Condition (n = 321)	OraQuick <i>ADVANCE</i> ® Results	
	Reactive	Non-Reactive
Multiparous women	1	14
Anti-nuclear antibody (ANA)	0	17
Lupus	0	15
Rheumatoid factor	1	17
Cytomegalovirus (CMV)	0	15
Epstein Barr virus (EBV)	1	14
Hepatitis A virus (HAV)	3	17
Hepatitis B virus (HBV)	1	16
Hepatitis C virus (HCV)	0	15
Human T-cell Lymphotropic virus Type I (HTLV-I)	0	15
Human T-cell Lymphotropic virus Type II (HTLV-II)	0	15
Rubella	0	15
IgG gammopathies	0	13
IgM gammopathies	0	12
Syphilis	0	15
Toxoplasmosis	0	15
Tuberculosis	0	15
Influenza	0	10
Multiple transfusions	0	10
Hemophiliacs	0	10
Herpes Simplex virus	0	5
Cirrhosis	0	5
Dialysis patient	0	4
Colon cancer	0	4
HTLV I/II	0	2
Chlamydia	0	3
Anti-scl or anti-rnp antibody	0	3
Breast cancer	0	1
Anti-DNA antibody	0	1
Gonorrhea	0	1
<b>Interfering Substances (n = 119)</b>		
Elevated Bilirubin	0	20
Elevated Hemoglobin	0	20
Elevated Triglycerides	0	20
Elevated Protein	0	20
Bacterially Contaminated	0	25
Visual Hemolysis (hemolytic)	0	5
Icteric	0	5
Lipemic	0	4

#### REPRODUCIBILITY

The reproducibility of the OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test was tested at 3 sites using 3 lots of the device on 3 different days with 9 operators (3 per site). A blind-coded panel was tested that consisted of 5 contrived blood specimens (4 antibody-positive and 1 antibody-negative). Test results were recorded at the lower and upper time limits for the device. A total of 405 tests were performed (135/site), with a total of 81 tests per panel member. The overall reproducibility of the OraQuick *ADVANCE*® Rapid HIV-1/2 Antibody Test was 405/405 = 100% when read at the upper time limit for this study. Overall concordance at the specified time limits was 99.8%, (404/405). A single HIV-1 low positive panel member was recorded as negative at the lower time limit but was reactive at the upper read time.

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Explanation of Symbols		
 Use by	 Positive Control	 In Vitro Diagnostic Medical Device
 Catalog Number	 Negative Control	 Temperature Limitation
 Batch code	 Authorized Representative in the European Community	 Caution, consult accompanying documents
 Manufacturer		


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