WHO Prequalification of In Vitro Diagnostics
PUBLIC REPORT

Product: Alere™ HIV Combo
WHO reference number: PQDx 0243-013-00

Alere™ HIV Combo with product codes 7D2842, 7D2843, 7D2843SET manufactured by Alere Medical Co. Ltd., rest of world regulatory version, was accepted for the WHO list of prequalified in vitro diagnostics and was listed on 11 July 2016.

Intended use:
Alere™ HIV Combo is an in vitro, visually read, qualitative immunoassay for the detection of antibodies (Ab) to HIV-1 and HIV-2 and the detection of non-immunocomplexed (free) HIV-1 p24 antigen (Ag) in human capillary and venous whole blood, plasma or serum. Alere™ HIV Combo is intended to be used as an aid in the diagnosis of HIV-1/HIV-2 infection in individuals with suspected HIV infection. Reactivity on 1) the Ab bar alone 2) the Ag bar alone or 3) both, the Ab and Ag bars simultaneously, is considered a reactive result suggestive of infection with HIV. The test is for professional use only.

Assay description:
Alere™ HIV Combo is an immunochromatographic test for the qualitative detection of free HIV-1 p24 antigen and antibodies to HIV-1 and HIV-2. Specimen is added to the sample pad. The specimen mixes with biotinylated anti-p24 antibodies and selenium colloid – conjugates coated with recombinant HIV-1, HIV-2 and HIV-1 group O antigens, synthetic HIV-2 peptide and anti p24 mouse monoclonal antibody. This mixture continues to migrate through the solid phase to the immobilized recombinant HIV-1/HIV-1 group O antigens and synthetic HIV-1/HIV-2 peptides at the Antibody (Ab) window, immobilized avidin at the Antigen (Ag) window. If antibodies to HIV-1 and/or HIV-2 are present in the specimen, the antibodies bind to the selenium colloid conjugates coated with recombinant HIV-1, HIV-2 and HIV-1 group O antigens and synthetic HIV-2 peptide and to the immobilized recombinant HIV-1/HIV-1 group O antigens and synthetic HIV-1/HIV-2 peptides, forming one red bar at the Ab window site. If antibodies to HIV-1 and HIV-2 are absent, the selenium colloid- conjugates flow past the Ab window and no red bar is formed at the Ab window site. If free HIV-1 p24 antigen is present in the specimen, the antigen binds to the biotinoylated anti-p24 antibodies and the selenium colloid-conjugate coated with anti p24 mouse monoclonal antibody. This complex binds to an immobilized avidin forming a red bar at the Ag window site. If HIV-1 p24 antigen is not present, both the biotinylated anti-p24 antibodies and selenium colloid-conjugate flow past the Ag window and no red bar is formed at the Ag window site. To ensure assay validity, a procedural control bar is incorporated in the assay device at the Control window.
Test kit contents:

<table>
<thead>
<tr>
<th>Component</th>
<th>20 tests (product code 7D2842)</th>
<th>100 tests (product code 7D2843)</th>
<th>100 tests (product code 7D2843SET)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alere™ HIV Combo test devices</td>
<td>2 cards of 10 tests</td>
<td>10 cards of 10 tests</td>
<td>10 cards of 10 tests</td>
</tr>
<tr>
<td>Instructions for use (IFU)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Chase Buffer, prepared in phosphate buffer</td>
<td>Not provided</td>
<td>Not provided</td>
<td>1x 2.5ml bottle and IFU</td>
</tr>
<tr>
<td>Capillary tubes, EDTA</td>
<td>Not provided</td>
<td>Not provided</td>
<td>100</td>
</tr>
<tr>
<td>Blood lancets, sterile</td>
<td>Not provided</td>
<td>Not provided</td>
<td>100</td>
</tr>
</tbody>
</table>

Items required but not provided (available separately from Alere Medical Co. Ltd.):

<table>
<thead>
<tr>
<th>Item</th>
<th>Product code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chase Buffer, prepared in phosphate buffer</td>
<td>7D2243</td>
<td>1x 2.5ml bottle and IFU</td>
</tr>
<tr>
<td>Capillary tubes, EDTA</td>
<td>7D2222</td>
<td>100 tubes</td>
</tr>
<tr>
<td>Blood lancets, sterile</td>
<td>7D2232</td>
<td>100 lancets</td>
</tr>
</tbody>
</table>

Items required but not provided:

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumables, for testing on fingerstick whole blood specimen</td>
<td>Alcohol swabs</td>
</tr>
<tr>
<td>Equipment</td>
<td>Timer or watch</td>
</tr>
</tbody>
</table>

Storage:
The test kit should be stored at 2 – 30°C.

Shelf-life upon manufacture:
18 months.

Warnings/limitations:
- Alere™ HIV Combo is designed to detect antibodies (Ab) to HIV-1 and/or HIV-2 and non-immunocomplexed (free) HIV-1 p24 antigen (Ag), in human serum, plasma and capillary and venous whole blood specimens. Other body fluids or pooled specimens may not give accurate results and should not be used.
- The intensity of the Ab and Ag bars does not necessarily correlate to the titer of antibody and antigen in the specimen, respectively.
- A reactive result for antibodies to HIV-1/2 combined with a non-reactive result for HIV-1 p24 antigen does not preclude the possibility of acute HIV infection.
- Reactive results should be confirmed using another method and the results should be evaluated in light of the overall clinical evaluation before a diagnosis is made.
• No test provides absolute assurance that a specimen does not contain low levels of HIV-1 p24 antigen and/or antibodies to HIV-1 and HIV-2 such as those present at a very early stage or late stage of HIV infection.
• A non-reactive result for both antibodies to HIV-1/2 and HIV-1 p24 antigen does not preclude the possibility of exposure to or infection with HIV-1 or HIV-2 viruses.
• The absence of AG bar may occur when all p24 antigen is bound by antibodies. When high levels of antibodies against the p24 antigen are present in the blood after seroconversion, the antibodies tend to bind to the antigens, forming immunocomplexes. Alere HIV Combo detects only non-immunocomplexed (free) antigens; it does not detect immunocomplexed (bound) antigens.
• Some known HIV-infected persons taking antiretroviral medication have been shown to produce false negative results when tested by rapid diagnostic tests.
• Where clinical presentation or other data would suggest an inconsistent test result then the individual should be tested by nucleic acid testing (NAT) technologies immediately and/or retested for antibodies to HIV after more than 21 days since the original testing.
• Whole blood or plasma specimens containing anticoagulants other than EDTA have not been validated for use with the Alere™ HIV Combo and may give incorrect results.
• Infants born to HIV-infected mothers may carry maternal antibodies and will test antibody positive until eighteen months of age, which may not necessarily indicate the true infection status of the new born. The use of HIV-1 p24 antigen testing to exclude infection in neonates (up to around eighteen months) is not recommended by CDC, because of poor sensitivity, especially in the presence of HIV antibody. Definitive diagnosis of HIV infection in early infancy requires other assays, including HIV nucleic acid test or viral culture.

**Summary of WHO prequalification assessment for Alere™ HIV Combo**

<table>
<thead>
<tr>
<th>PQC listing</th>
<th>Date</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dossier review</td>
<td>11 July 2016</td>
<td>listed</td>
</tr>
<tr>
<td>Site inspection(s) of quality management system</td>
<td>19 January 2016</td>
<td>MR</td>
</tr>
<tr>
<td>Laboratory evaluation of performance and operational characteristics</td>
<td>13 November 2015</td>
<td>MR</td>
</tr>
</tbody>
</table>

MR: Meets requirements  
N/A: Not applicable

**Prioritization for prequalification**

Based on the established criteria, Alere™ HIV Combo was given priority for WHO prequalification.

**Product dossier assessment**
Alere Medical Co. Ltd., submitted a product dossier for Alere™ HIV Combo as per the “Instructions for compilation of a product dossier” (PQDx_018 v1). The information (data and documentation) submitted in the product dossier was reviewed by WHO staff and external technical experts (assessors) appointed by WHO.

The manufacturer's responses to the nonconformities found during dossier screening and assessment findings were accepted on 19 January 2016.

Based on the product dossier screening and assessment findings, the product dossier for Alere™ HIV Combo meets WHO prequalification requirements.

**Manufacturing site inspection**
A comprehensive inspection was performed at the site of manufacture (Chiba Plant 357, Matsuhidai, Matsudo-shi, Chiba 270-2214, Japan and Chiba Logistics Centre 336-17, Matsuhidai, Matsudo-shi, Chiba 270-2214, Japan) of Alere™ HIV Combo in 11-15 May 2015 as per the “Information for manufacturers on prequalification inspection procedures for the sites of manufacture of diagnostics” (PQDx_014 v1). The inspection found that the manufacturer had an acceptable quality management system and good manufacturing practices in place that ensured the consistent manufacture of a product of good quality.

The manufacturer's responses to the nonconformities found at the time of the inspection were accepted on 13 April 2016.

Based on the site inspection and corrective action plan review, the quality management system for Alere™ HIV Combo meets WHO prequalification requirements.

**Laboratory evaluation**
Alere™ HIV Combo was evaluated by WHO in the 3rd quarter of 2015 using serum/plasma specimens. From this evaluation, we drew the following conclusions:

Alere™ HIV Combo is a lateral flow immunochromatographic rapid diagnostic test for the detection of HIV-1/2 antibodies and HIV-1 p24 antigen in human serum/plasma and venous/capillary whole blood specimens. A volume of 50 µL of specimen is needed to perform the assay. This type of assay requires no sophisticated equipment and can therefore be performed in laboratories with limited facilities and non-laboratory settings. Reading of the results can be done visually i.e. subjectively read.

In this limited evaluation on a panel of 1119 specimens, we found an initial sensitivity (95% CI) of 100% (99.2% - 100%) and an initial specificity (95% CI) of 98.9% (97.8% - 99.6%) compared to the reference assays. The final sensitivity (95% CI) was 100% (99.2% - 100%) and the final specificity (95% CI) was 99.4% (98.4% - 99.8%) compared to the reference assays. Lot to lot variation observed was within the acceptance range.

For eight seroconversion panels, Alere™ HIV Combo detected HIV-1 antigen and/or HIV-1/2 antibodies on average 0.875 specimens earlier than the benchmark assay (Enzygnost
Anti-HIV 1/2 Plus [Siemens Healthcare Diagnostics]. It also detected HIV-1 p24 antigen on average 0.5 specimens later than INNOTEST HIV p24 Antigen mAb (Fujirebio Europe).

25/25 specimens were characterized for presence of HIV infection correctly, through detection of either presence of antigen or antibody. Of the 25 specimens, 23 specimens contained HIV-1/2 antibodies, Alere HIV Combo identified all 23 specimens. Of the 25 specimens, 12 specimens contained detectable HIV p24 antigen, Alere HIV Combo identified 5 specimens.

25/25 specimens were characterized for presence of HIV infection correctly, through detection of either presence of antigen or antibody. Of the 25 specimens, 11 specimens contained HIV-1/2 antibodies, Alere HIV Combo identified all 11 specimens. Of the 25 specimens, 22 specimens contained detectable HIV p24 antigen, Alere HIV Combo identified 13 specimens.

For the HIV culture supernatant panel, Alere™ HIV Combo detected all HIV-1 subtypes, the HIV-2 culture isolate was also detected.

For the 1st International Reference Panel for anti-HIV [NIBSC code 02/210], Alere™ HIV Combo detected all subtypes tested (HIV-1 A, HIV-1 B, HIV-C, HIV-1 CRF01_AE, HIV-1 O and HIV-2).

For the HIV-1 p24 antigen standard [NIBSC code 90/636], Alere™ HIV Combo detected to 3.125 international units. In contrast, Vironostika HIV Ag/Ab (bioMérieux) detected to 12.5 international units.

In this study, 0% of the results were recorded as indeterminate. Results were interpreted independently by three technicians; the overall inter-reader variability was 0.18%. The invalid rate was 0%.

<table>
<thead>
<tr>
<th>Performance characteristics in comparison with an agreed reference standard</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initial (95% CI)</strong></td>
</tr>
<tr>
<td>Sensitivity %</td>
</tr>
<tr>
<td>Specificity %</td>
</tr>
<tr>
<td>Invalid rate %</td>
</tr>
<tr>
<td>Inter-reader variability %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Additional performance characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity during seroconversion on 8 seroconversion panels in comparison with a benchmark assay (3rd generation EIA);</td>
</tr>
<tr>
<td>Enzygnost Anti-HIV 1/2 Plus</td>
</tr>
<tr>
<td>-----------------------------</td>
</tr>
<tr>
<td>Sensitivity during seroconversion on 8 seroconversion panels in comparison with a p24 antigen EIA; INNOTEST HIV p24 Antigen mAb</td>
</tr>
<tr>
<td>Analytical sensitivity on a mixed titer panel in comparison with an agreed reference standard</td>
</tr>
<tr>
<td>Analytical sensitivity on a HIV p24 antigen panel in comparison with an agreed reference standard</td>
</tr>
<tr>
<td>Lot to lot variation on a dilution panel in comparison with an agreed reference standard</td>
</tr>
</tbody>
</table>

### Key operational characteristics

<table>
<thead>
<tr>
<th>Validated specimen types</th>
<th>Serum, plasma (EDTA), venous whole blood (EDTA), capillary whole blood.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of steps</td>
<td>2 steps required, if finger stick/venous whole blood 1 step with precision required, if serum/plasma.</td>
</tr>
<tr>
<td>Time to result</td>
<td>20 minutes after specimen was added.</td>
</tr>
<tr>
<td>Endpoint stability</td>
<td>40 minutes after specimen was added.</td>
</tr>
<tr>
<td>Internal QC</td>
<td>Yes. The procedural control indicates the successful flow of reagents along the test strip, it does not indicate if specimen or sufficient specimen have been added.</td>
</tr>
<tr>
<td>In-use stability of reagents</td>
<td>Same as expiry date on test kit outer packaging.</td>
</tr>
</tbody>
</table>
Labelling

1. Labels
2. Instructions for use
1. Labels

HIV Combo

EN
Alere™ HIV Combo is an in vitro, visually read, qualitative immunoassay for the detection of antibodies (Ab) to HIV-1 and HIV-2 and the detection of non-immunocomplexed (free) HIV-1 p24 antigen (Ag) in human capillary and venous whole blood, plasma or serum.

Kit contains:
- 10 test cards coated with HIV-1/2 recombinant antigen and synthetic peptides, antibodies to p24 antigen and avidin.

FR
Alere™ HIV Combo est un test immunoologique qualitatif in vitro à lecture visuelle pour la détection des anticorps (Ac) anti-VIH-1 et anti-VIH-2 et de l’antigène (Ag) du VIH-1 non immuno-complexé ( libre) dans le sang total capillaire ou veineux, le plasma ou le sérum humain.

Ce kit contient:
- 10 cartes de tests recouvertes d’anticorps recombinants et de peptides de synthèse correspondant aux VIH-1,2, d’anticorps dirigés contre l’antigène p24 du VIH-1 et d’avidine.

ES
Alere™ HIV Combo es un ensayo inmunológico cualitativo in vitro con lectura visual para la detección de anticuerpos (Ab) para VIH-1 y VIH-2 y del antígeno (Ag) no inmunocomplexado (en forma libre) p24 del VIH-1 en sangre humana capilar y venosa, plasma o suero.

Contenido del kit:
- 10 tarjetas de prueba recubiertas con anticuerpo recombinante y péptidos sintéticos, anticuerpos al antígeno p24 y avidina.

PT
Alere™ HIV Combo é um ensaio imunológico qualitativo de leitura visual in vitro para a deteção de anticorpos (Ab) ao VIH-1 e VIH-2 e do antígeno (Ag) p24 do VIH-1 não imunocomplexado (livre) em sangue total capilar e venoso, plasma ou suor humano.

O Conteúdo do kit:
- 10 cartões de testes revestidos com antígeno recombinante de VIH-1/2 e peptides sintéticos, anticorpos anti-p24 e avidina.
2. Instructions for use
NAME AND INTENDED USE
Alere™ HIV Combo is an in vitro, visually read, qualitative immunassay for the detection of HIV-1 and HIV-2 and the detection of non-immuno-complexed (free) HIV-1 p24 antigen (Ag) in human blood and various whole blood, plasma or serum. The test is intended to be used as an aid to the diagnosis of HIV-1 and HIV-2 infection in individuals with suspected infection. Reactivity on the Ab Ab alone or the Ab Ag or Ab Ab 3 or both; the Ab and Ag bars simultaneously, is considered a reactive result suggestive of infection with HIV. The test is for professional use only.

SUMMARY AND EXPLANATION OF THE TEST
AIDS (Acquired Immunodeficiency Syndrome) is characterized by changes in the population of T-cell lymphocytes. In an infected individual, the virus causes depletion of CD4 helper T-cells, which leaves the person susceptible to opportunistic infections and some malignancies. The tests that cause AIDS stigma as two related tests known as HIV-1 and HIV-2. The multiplication of the HIV in the infected cells leads to cell rupture and thus the release of HIV virus particles, which are first detected in the form of HIV RNA and then in the form of HIV antigen. This is followed by production of specific antibodies to either HIV-1 or HIV-2. HIV antigen may be undetectable at this time because of the formation of antibody-antigen complexes.

BIOPHYSICAL PRINCIPLES OF THE PROCEDURE
Alere™ HIV Combo is an immunochromatographic test for the qualitative detection of free HIV-1 p24 antigen and antibodies to HIV-1, and HIV-2. Specimen is added to the test pad.

The specimen reacts with immobilized anti-p24 antibodies and aminobenzidinediazotized cobalt that reacts with recombinant HIV-1, HIV-2 and HIV-1 group O antigens, synthetic HIV-2 peptide and anti-p24 mouse monoclonal antibody. This mixture continues to migrate through the solid phase to immobilized recombinant HIV-1, HIV-2 and HIV-1 group O antigens and synthetic HIV-1, HIV-2 peptides at the Antibody (Ab) window, immobilized anti-dan at the Antigen (Ag) window. If antibodies to HIV-1 and HIV-2 are present in the specimen, the antibodies bind to the recombinant HIV-1, HIV-2 and HIV-1 group O antigens and synthetic HIV-1, HIV-2 peptides and form a red band at the Ab window. If the band is not visible, then the test is considered negative.

If the HIV-1 p24 antigen is present in the specimen, the antigen binds to the immobilized anti-p24 antibodies and aminobenzidinediazotized cobalt that reacts with recombinant HIV-1, HIV-2 and HIV-1 group O antigens and synthetic HIV-1, HIV-2 peptides and form a red band at the Ag window. If the band is not visible, then the test is considered negative.

CONTENTS
Alere™ HIV Combo 20 Test (720243) or 100 Test (720245)
Alere™ HIV Combo Test Card, 20 or 100 cards (containing 10 cards each) coated with immobilized anti-p24 antibodies and anti-p24 antibodies and avidin.

Accessories (required but not provided)
- For testing Whole Blood samples:
  - Cassette Buffer (721343). 1 Bottle (2.5 mL) prepared in phosphate buffer.
  - Preservative: Antimicrobial Agents.
- For testing Whole Blood samples (fingerstick: eye/ear):
  - EDTA Capillary Tubes (722225)
  - Alere™ HIV Combo SET-70DMBT(100 Test for testing whole blood samples)
- For testing Plasma samples:
  - Cassette Buffer (721343)
  - EDTA Capillary Tubes (722225)
- Materials Required But Not Provided
  - Disposable gloves, tincture
  - Microapplicator caplel of delivering 50 μL (other than fingerstick)
  - Alcohol swab, gauze pad, lancet (for fingerstick)

WARNINGS AND PRECAUTIONS
For in vitro Diagnostic Use
For professional use only.
Safety data sheet available for professional user on request.

CAUTION: When handling specimens and reagents, use appropriate biohazard practices. These precautions include, but are not limited to the following:
- Wear gloves.
- Do not pipet by mouth.
- Do not cut, drink, smoke, apply cosmetics, or handle contact lenses in areas where these materials are handled.
- Clean and disinfect all spills of reagents or specimens using suitable disinfectant, such as 0.5% sodium hypochlorite, or other suitable disinfectant.
- Discontinue and dispose of all specimens, used test strips, and other potentially contaminated materials in accordance with local regulations.

STORAGE
Store Alere™ HIV Combo Test Cards and Cassette Buffer at 2-30°C until expiration date.
- When handled and stored as directed, kit components are stable until the expiration date. Do not set kit components beyond expiration date.
- Rapidly read all unused tests in the foil pouch containing the desiccant by pressing seal from end to end to close.
- Do not use devices that have been wet or if the packaging has become damaged.

SPECIMEN COLLECTION
Serum, Plasma, and Whole Blood Collection by Venipuncture.
Use EDTA Capillary Tubes (722225) for fingerstick collection, or for whole blood collection. Use anticoagulant tubes for whole blood.

CAUTION: Glass capillaries may be damaged during transportation or when in use. Handle with care in order to avoid injury when removing the package as well as during use and during disposal.
- Collect human serum, plasma and whole blood by venipuncture as follows:
  - To obtain serum, separate from the clot. To obtain plasma, separate from the packed cells. Separate specimens as soon as possible to avoid hemolysis.
  - Whole Blood Collection by Fingerstick (See Fig. 5)
    - Use EDTA Capillary Tubes (722225).
    - Before collecting a fingerstick specimen, place a capillary tube on a dry clean surface.
    - Choose the fingertip of the middle, ring, or index finger (whichever is the least calloused). Wash the hand as needed with a warm, soaped, or wet warm water to remove blood.
    - Clean fingertip with alcohol, allow to dry.
    - Position the hand palm up. Place the lancet off-center on the fingertip. Firmly press the lancet against the finger and remove it. Disinfect the lancet in an appropriate biohazard storage container.
    - Wipe the first drop of blood with a sterile gauze pad.
    - Hold the finger lower than the elbow and apply gentle, intermittent pressure to the base of the punctured finger several times. Touched the tip of the capillary tube into the specimen immediately after testing.
    - Fill the tube with blood between the 2 lines marked on the capillary tube. (50 μL)

SPECIMEN STORAGE
- Store serum and plasma specimens at 2-8°C and run the test within 7 days of collection. If testing is delayed more than 7 days, freeze the specimen at -20°C or colder.
- Avoid repeated freeze/thaw cycles.
- If serum or plasma specimens show severe particulate matter or turbidity, centrifuge at 10,000g for 5 minutes at room temperature before sampling. Carefully remove the 50 μL last sample from the supernatant. If a lipid layer is formed on the surface of the liquid, ensure to take the sample from the clear liquid below that layer or darker.
- For whole blood collected by venipuncture, store at 2-8°C. Do not freeze whole blood specimens. Run the test within 7 days of collection. Mix the specimen well by gentle inversion of the tube immediately before testing.
- For whole blood immunocytochemical test, test immediately.

TEST PROCEDURE
Remove the desired number of test strips from the 10-test card by bending and tearing at the perforation.

NOTE:
- To preserve the lot number which appears on the left side of the test card, do not cut individual test strips from the right side of the test card. The lot number and expiry date are not printed on the individual test strips.
- After removing the protective foil cover from each test strip, start the assay immediately.
- If the test strip bun during reading and it becomes difficult to see the bars, repeat the test using a new test strip.
- If serum or plasma sample does not flow or shows abnormal flow, such as clumps or stringing in the middle of the window, centrifuge the specimen and repeat the test with a new test strip.

CAUTION: Abnormal flow may occur with a whole blood (fingerstick) sample, if the capillary tube is not placed in the middle of the sample pad at an upright (vertical) position. If this occurs, collect a new sample and repeat the test using a new strip.
- Remove the protective foil cover from each test strip.
- For serum or plasma specimens:
  a. Apply 50 μL of sample (precision pipettes) to the sample pad (marked by the arrow symbol).
  b. Wait a minimum of 20 minutes from addition of the sample (up to 40 minutes maximum) and read result.
- For whole blood (venipuncture) specimens:
  a. Apply 50 μL of sample (precision pipettes) to the sample pad (marked by the arrow symbol).
  b. Wait one minute to allow the sample to be absorbed, then apply one drop of Cassette Buffer to the sample pad, holding the bottle vertically.
  c. Wait a minimum of 20 minutes from addition of the sample (up to 40 minutes maximum) and read result.
- For whole blood (fingerstick) samples using an EDTA Capillary Tube:
  a. Place the capillary tube containing the blood sample onto the middle of the sample pad (marked by the arrow symbol) at an upright (vertical) position.
  b. Wait until all the blood is transferred from the capillary tube to the sample pad. Then immediately apply one drop of Cassette Buffer to the sample pad, holding the bottle vertically.
  c. Caution: do not lift the capillary tube from the sample pad before all the blood has been transferred – a bubble may form which will prevent the complete transfer of sample and invalidate the test. It may take more than one minute to complete.
  d. Wait a minimum of 20 minutes from addition of the sample (up to 40 minutes maximum) and read result.

QUALITY CONTROL
To ensure assay validity, a procedural control is incorporated in the device and is labeled “C”. If the control bar does not appear by assay completion, the test result is invalid. Repeat the test using a new test strip.

INTERPRETATION OF RESULTS (See picture)

NOTE:
- Interpret any visible bar (even very faint) in the control window as a valid result.
- The test result is reactive even if the Ag or Ab bars appear lighter than or darker than the control bar. Any bar, no matter how faint, is interpreted as reactive.
- A test result which gives very high background should be considered as a false positive.
- If an invalid result occurs repeatedly, or for technical assistance, contact your local distributor for Technical Support.

ANTIBODY REACTIVITY (Two Bars - Control and All Bars)
Red bars appear in both the control window (labeled “C”) and in the Ag window (labeled “Ag”). The strips:
- Any visible red bar, no matter how faint, in the Ag window as reactive.
- At least one bar visible in the control window as reactive.

ANTIGEN (p24 REACTIVITY (Two Bars - Control and All Bars))
Red bars appear in both the control window (labeled “C”) and in the Ag window (labeled “Ag”). The strips:
- Any visible red bar, no matter how faint, in the Ag window as reactive.
- At least one bar visible in the control window as reactive.
ANTIBODY REACTIVE AND ANTIQUES (p46 REACTIVE) (Three Bars - Control, Ab and Ag Bars)

Red bars appear as the second window (labeled "C"), the Ab window (labeled "AB") and the Ag window (labeled "AG") of the strip. Interpret any visible red bar in the Ab and Ag windows as reactive.

NON-REACTIVE (One Bar - Control Bar)

One red bar appears in the control window of the strip (labeled "C"), and no red bar appears in the Ab and Ag windows of the strip (labeled "AG" and "AB").

INVALID (No Control Bar)

If there is no bar in the control window of the strip, and even if a red bar appears in the Ab or Ag window of the strip, the result is invalid. Repeat the test using a new test strip.

LIMITATIONS OF THE PROCEDURE

- Alere™ HIV Combo is designed to detect antibodies (Ab) to HIV-1 and/or HIV-1 and/...
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**Notes:**
- Virological data included. **PR9495 No. 5 was not tested.**
- Data of virological data was not examined.
- Data not examined.
- Data not reported.
- Data not reported.
- Data not tested.
- Data not tested.
- Data not tested.

**References:**

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**Adolescent Line**

For further information, please contact your distributor, or call one of the following Alere Product Support Care Centers:

**Region**

<table>
<thead>
<tr>
<th>Region</th>
<th>Telephone</th>
<th>Email Address</th>
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<tbody>
<tr>
<td>Europe</td>
<td>+44 144 203 0009</td>
<td><a href="mailto:EM.support.europe@alere.com">EM.support.europe@alere.com</a></td>
</tr>
<tr>
<td>Asia/Pacific</td>
<td>+61 3 9303 1271</td>
<td><a href="mailto:APAC.support@alere.com">APAC.support@alere.com</a></td>
</tr>
<tr>
<td>Latin America</td>
<td>+52 5 198 3195</td>
<td><a href="mailto:LAC.support@alere.com">LAC.support@alere.com</a></td>
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**Line 1 of contact**

For more information, please contact our distributor, or call one of the following Contact Points of Support:

**Region**

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<th>Email Address</th>
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<tbody>
<tr>
<td>Europe &amp; Africa</td>
<td>+351 205 0000</td>
<td><a href="mailto:EM.support.europe@alere.com">EM.support.europe@alere.com</a></td>
</tr>
<tr>
<td>Latin America</td>
<td>+1 65 999 0000</td>
<td><a href="mailto:LAC.support@alere.com">LAC.support@alere.com</a></td>
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</table>

**Line 2 of contact**

For more information, please contact our distributor, or call one of the following Contact Points of Support:

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<tr>
<td>Europe &amp; Africa</td>
<td>+34 91 000 0000</td>
<td><a href="mailto:EM.support.europe@alere.com">EM.support.europe@alere.com</a></td>
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<tr>
<td>Latin America</td>
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