NOTE: This package insert must be read carefully prior to product use. Package insert instructions must be carefully followed. Reliability of assay results cannot be guaranteed if there are any deviations from the instructions in this package insert.

NOTE: If you receive reagents, calibrators, controls or bulk solutions that are in a condition contrary to the package insert or label recommendation, or that are damaged, contact your local customer service organization.

For use with software version 2.1 or higher

See REAGENTS section for a full explanation of symbols used in reagent component naming.
The ABBOTT PRISM HTLV-I/HTLV-II assay is an in vitro chemiluminescent immunoassay (CLIA) for the qualitative detection of antibodies to human T-lymphotropic virus type I and/or human T-lymphotropic virus type II (anti-HTLV-I/HTLV-II) in human serum or plasma. The ABBOTT PRISM HTLV-I/HTLV-II assay is detected as a changed or positive blood reaction on transmission of HTLV-I and HTLV-II to recipients of blood and blood components and as an aid in the diagnosis of HTLV-I and HTLV-II infections.

**SUMMARY AND EXPLANATION OF THE TEST**

HTLV-I, a human Type-C retrovirus,1,2 has been etiologically associated with neoplastic conditions and a variety of demyelinating neurologic disorders including: adult T-cell leukemia (ATL),3 tropical spastic paraparesis (TSP)4,5 and/or HTLV-I transmission to 25% of children exposed to HTLV-I through breast feeding develop antibodies to HTLV-I.20,21,22 Transmission of HTLV-I and HTLV-II infection to transfusion recipients, between nonhuman primates, intravenous drug users and in healthy individuals.14-23 Transmission of HTLV-I (and HTLV-II) infection to transfusion recipients, between nonhuman primates, intravenous drug users and in healthy individuals.14-23 Transmission of HTLV-I and HTLV-II occurs in approximately 5% of non-breast fed children born to infected mothers.37,38 Following transmission of cellular blood components in HTLV-I endemic areas, 44 to 63% of recipients become infected.39,40,41 The presence of HTLV-I antibodies in an asymptomatic person indicates that the individual may be infected with the virus and should not donate blood.38,40,41 The lifetime risk for TSP/HAM for those who live in an endemic area is estimated at less than 1%.35,36 The presence of HTLV-I antibodies in an asymptomatic person indicates that the individual may be infected with the virus and should not donate blood.38,40,41 However, lower seroconversion rates (approximately 20%) have been reported in recipients of contaminated blood in the U.S.27,28 Infection with HTLV-I during adult life results in TSP/HAM-like illness, and not in ATL.9 The lifetime risk for TSP/HAM for those who live in an endemic area is estimated at less than 1%.35,36 The presence of HTLV-I antibodies in an asymptomatic person indicates that the individual may be infected with the virus and should not donate blood.38,40,41 but does not mean the individual has ATL or HTLV-I or will develop ATL or HTLV-I.34,35 Consultation with appropriate medical personnel is recommended for discussion of additional concerns related to viral infection and its transmission.42,43 Association of HTLV-II with leukemia pathogenesis is not well established; however, some cases of neurologic diseases resembling TSP/HAM have been recently reported to be due to HTLV-II.44,45 Epidemiologic data suggest that HTLV-II is a new-world virus common among Amerindians in North, Central and South America.14 Transmission of HTLV-II, like HTLV-I, occurs via transfusion of cellular blood components in HTLV-I endemic areas. 44 to 63% of recipients become infected.39,40,41 Neither HTLV-I nor HTLV-II cause acquired immunodeficiency syndrome (AIDS) and the HTLV-I and HTLV-II viruses are only remotely related to the AIDS virus, HIV. No cross-reactivity with antibodies to HIV-1 or HIV-2 has been demonstrated for this assay. The finding of antibodies to HTLV-I/HTLV-II by this assay has no relationship to the presence of antibodies to HIV and does not imply any risk of AIDS.

The ABBOTT PRISM HTLV-I/HTLV-II assay has been developed to detect antibodies to HTLV-I and HTLV-II in human serum or plasma. This detection is accomplished through the presence of HTLV-I and HTLV-II viral antigens on the matrix to bind any Probe that is present. After the third incubation, the ABBOTT PRISM HTLV-I/HTLV-II assay is a three-step sandwich CLIA. The reactions occur in the following sequence:

1. The Acridinium-Labeled Anti-Biotin Conjugate is added to the Microparticles on the matrix and incubated. The Probe binds to the HTLV-I/HTLV-II Microparticle-antibody complex created during the first incubation process. After the second incubation, the unbound Probe is washed into the blotter with Probe Wash.

2. Positive Calibrator may be cross-reactive for antibody to HTLV-II. Preservative: Sodium Azide. (Symbol: ▲)

3. Negative Calibrator (Human). Recalculated, Heat-Inactivated Plasma Nonreactive for HBsAg, HIV RNA or HIV-1 Ag, Anti-HCV, Anti-HIV-1/HIV-2, and Anti-HTLV-I/HTLV-II. Preservative: Sodium Azide. (Symbol: ★)

**NOTE**

Each specific component description noted below is accompanied by a unique symbol. These symbols appear on both the component labels and on corresponding instrument tubing identifier labels. They are meant to facilitate identification and installation of reagent bottles within the ambient reagent bay and refrigerator.

ABBOTT PRISM HTLV-I/HTLV-II Assay Kit (6A53-48)

- **MICROPARTICLES**
  - 1 bottle (319 mL) HTLV-I/HTLV-II Antigen (Inactivated) Coated Microparticles in Phosphate Buffer with Tween® 20 and Protein Stabilizers. Preservative: Sodium Azide. (Symbol: ●)
  - 1 bottle (331 mL) Anti-Biotin (Mouse Monoclonal): Acridinium Conjugate in Phosphate Buffered Saline with Triton®** X-100 and Protein Stabilizers. Preservative: Sodium Azide. (Symbol: ▲)

- **CONJUGATE**
  - 1 bottle (331 mL) Anti-Biotin (Mouse Monoclonal): Acridinium Conjugate in Phosphate Buffered Saline with Triton®** X-100 and Protein Stabilizers. Preservative: Sodium Azide. (Symbol: ●)

- **CAL**
  - 3 bottles (10.4 mL each) Positive Calibrator (Human). Recalculated, Heat-Inactivated Plasma Reactive for HBsAg, HIV RNA or HIV-1 Ag, Anti-HCV, Anti-HIV-1/HIV-2, and Anti-HTLV-I/HTLV-II. Preservative: Sodium Azide. (Symbol: ★)

- **CALL**
  - 3 bottles (10.4 mL each) HTLV-I Positive Control (Human). Recalculated, Heat-Inactivated Plasma Reactive for Anti-HTLV-I, and Nonreactive for HBsAg, HIV RNA or HIV-1 Ag, Anti-HCV and Anti-HIV-1/HIV-2. HTLV-I Positive Control Assay (+) may be cross-reactive for antibody to HTLV-II. Preservative: Sodium Azide. (Symbol: PC)

- **CONTROL**
  - 3 bottles (10.4 mL each) HTLV-II Positive Control Assay (1) (Human). Recalculated, Heat-Inactivated Plasma Reactive for Anti-HTLV-II, Nonreactive for HBsAg, HIV RNA or HIV-1 Ag, Anti-HCV and Anti-HIV-1/HIV-2. HTLV-II Positive Control Assay (+) may be cross-reactive for antibody to HTLV-I. Preservative: Sodium Azide. (Symbol: PC)

- **PROBE**
  - 1 bottle (324 mL) HTLV-I/HTLV-II Antigen (Inactivated) Biotinylated Probe. Biotinylated HTLV-I, HTLV-II, and HTLV-I Envelope Enriched Viral Lysate in TRIS Buffered Saline with Calf Serum and Protein Stabilizers. Preservative: ProClin™ 300. (Symbol: ■)

ABBOTT PRISM HTLV-I/HTLV-II Wash Kit (6A53-38)

- **TRANSFER WASH**
  - 1 bottle (3342 mL) Transfer Wash. Phosphate Buffered Saline. Preservative: Sodium Azide. (Symbol: ~)

- **CONJUGATE WASH**
  - 1 bottle (1725 mL) Conjugate Wash. MES (p-Nitrophenol)ethanesulfonic Acid) Buffered Saline. Preservative: ProClin™ 300. (Symbol: ●)
• **PROBE WASH** 1 bottle (1718 mL) Probe Wash. TRIS Buffered Saline with Triton X-100. Preservatives: ProClin 300 and Sodium Azide. (Symbol: ⚠️)

ABBOTT PRISM Activator Concentrate (1A75-02 or 3L27-02)

• **ACTIVATOR CONCENTRATE** 4 bottles (900 mL each) Activator Concentrate. 0.4% Hydrogen Peroxide/0.06% Diethylenetriaminepentaacetic Acid.

ABBOTT PRISM Activator Diluent (1A75-01 or 3L27-01)

• **ACTIVATOR DILUENT** 4 bottles (900 mL each) Activator Diluent. 0.3% Sodium Hydroxide.

Other Reagents Available

ABBOTT PRISM Run Control Kit (5E22-10)

• **CONTROL** 2 Bottles (10 mL each) Positive Control (Human). Purified anti-HBc IgG (Concentration: 0.9 - 2.6 PEI Units/mL) and recalculated, heat-inactivated plasma reactive for HBsAg (HBsAg Concentration: 0.10 - 0.40 ng/mL [0.01 - 0.05 PEI Units/mL]), anti-HCV, anti-HIV-1, and anti-HTLV-I. Preservative: Sodium Azide. (Symbol: POS)

† Refer to **NOTE** listed at the end of this section.

• **SUP CONTROL** 1 Bottle (10 mL) Supplemental Positive Control (Human). Recalculated, heat-inactivated plasma reactive for anti-HIV-2 and anti-HTLV-II, nonreactive for HBsAg and anti-HCV. Preservative: Sodium Azide. (Symbol: SUP)

ABBOTT PRISM Positive Run Control Kit (5E22-11)

• **CONTROL** 6 Bottles (10 mL each) Positive Control (Human). Purified anti-HBc IgG (Concentration: 0.9 - 2.6 PEI Units/mL) and recalculated, heat-inactivated plasma reactive for HBsAg (HBsAg Concentration: 0.10 - 0.40 ng/mL [0.01 - 0.05 PEI Units/mL]), anti-HCV, anti-HIV-1, and anti-HTLV-I. Preservative: Sodium Azide. (Symbol: POS)

† Refer to **NOTE** listed at the end of this section.

ABBOTT PRISM Run Control Kit (4B48-10)

• **CONTROL** 1 Bottle (30 mL) Positive Control (Human). Purified anti-HBc IgG (Concentration: 1.5 - 3.5 PEI Units/mL) and recalculated, heat-inactivated plasma reactive for HBsAg (HBsAg Concentration: 0.10 - 0.40 ng/mL [0.01 - 0.05 PEI Units/mL]) and reactive for anti-HCV, anti-HIV-1 and anti-HTLV-II. Preservative: Sodium Azide. (Symbol: SUP)

† Refer to **NOTE** listed at the end of this section.

• **SUP CONTROL** 1 Bottle (12 mL) Supplemental Positive Control (Human). Recalculated, heat-inactivated plasma reactive for anti-HIV-2, anti-HTLV-II, nonreactive for HBsAg and anti-HCV. Preservative: Sodium Azide. (Symbol: SUP)

ABBOTT PRISM Positive Control Kit (4B48-11)

• **CONTROL** 3 Bottles (20 mL each) Positive Control (Human). Purified anti-HBc IgG (Concentration: 1.5 - 3.5 PEI Units/mL) and recalculated, heat-inactivated plasma reactive for HBsAg (HBsAg Concentration: 0.10 - 0.40 ng/mL [0.01 - 0.05 PEI Units/mL]) and reactive for anti-HCV, anti-HIV-1, and anti-HTLV-I. Preservative: Sodium Azide. (Symbol: POS)

† Refer to **NOTE** listed at the end of this section.

ABBOTT PRISM Run Control Kit (2K24-10)

• **CONTROL** 2 Bottles (10 mL each) Positive Control (Human). Purified anti-HBc IgG (Concentration: 0.9 - 2.6 PEI Units/mL) and recalculated, heat-inactivated plasma reactive for HBsAg (HBsAg Concentration: 0.10 - 0.40 ng/mL [0.01 - 0.05 PEI Units/mL]), anti-HCV, anti-HIV-1, and anti-HTLV-I. Preservative: Sodium Azide. (Symbol: POS)

† Refer to **NOTE** listed at the end of this section.

• **SUP CONTROL** 1 Bottle (10 mL) Supplemental Positive Control (Human). Recalculated, heat-inactivated plasma reactive for anti-HIV-2 and anti-HTLV-II, nonreactive for HBsAg, HIV RNA or HIV-1 Ag, and anti-HCV. Preservative: Sodium Azide. (Symbol: SUP)

ABBOTT PRISM Positive Run Control Kit (2K24-11)

• **CONTROL** 6 Bottles (10 mL each) Positive Control (Human). Purified anti-HBc IgG (Concentration: 0.9 - 2.6 PEI Units/mL) and recalculated, heat-inactivated plasma reactive for HBsAg (HBsAg Concentration: 0.10 - 0.40 ng/mL [0.01 - 0.05 PEI Units/mL]), anti-HCV, anti-HIV-1, and anti-HTLV-I. Preservative: Sodium Azide. (Symbol: POS)

† Refer to **NOTE** listed at the end of this section.

† NOTE: Each batch MUST end in a release control. An anti-HTLV-II/HIV-II release control is any control reactive for anti-HTLV-I and/or anti-HTLV-II which has been configured to validate system function and release sample results. The configuration criteria are defined in the RUN CONTROLS file of the ABBOTT PRISM Resource Management software. Any user specified control reactive for anti-HTLV-I and/or anti-HTLV-II may be used.

**WARNINGS AND PRECAUTIONS**

**IVD: For In Vitro Diagnostic use.**

CAUTION: This product contains human sourced and/or potentially infectious components. Components sourced from human blood have been tested and found to be nonreactive for HBsAg, HIV RNA or HIV-1 Ag, anti-HCV, and anti-HIV-1/HIV-2 by approved tests. Refer to the Reagents section of this package insert. No known test method can offer complete assurance that products derived from human sources will not transmit infection. Therefore, all human sourced material must be considered potentially infectious. It is recommended that all samples and kit reagents be handled in accordance with Biosafety Level 2 practices as described in the CDC NIH publication, Biosafety in Microbiological and Biomedical Laboratories.67 The HTLV-I and HTLV-II antigens have been inactivated by sonication and detergent-treatment prior to use. The HTLV-I Positive Calibrator and the HTLV-II Positive Assay Control (1) have been inactivated by heat treatment.68

**Safety Precautions**

• Do not pipette by mouth.

• Do not smoke, eat, drink, apply cosmetics, or handle contact lenses in areas in which samples or reagents are handled.

• Wear disposable gloves when handling samples and reagents.

• Clean and disinfect all spills of samples and reagents using a tuberculocidal disinfectant, such as 0.5% sodium hypochlorite.61-63

• Decontaminate and dispose of all samples, reagents and other potentially contaminated materials in accordance with applicable regulations.64,66 Generally accepted procedures for the treatment of potentially infectious solid waste may include incineration or autoclaving. Due to variations among autodeways and in waste configuration, each user must verify the effectiveness of the decontamination cycle using biological indicators.65

• The ABBOTT PRISM Line Cleaner containing 2% Tetraethylammonium Hydroxide (TEAH) may cause mild eye irritation. If this solution comes in contact with eyes, rinse immediately with water (for additional information, refer to the ABBOTT PRISM Operations Manual, Section 8).

• Some components of this product contain Sodium Azide. For a specific listing, refer to the Reagents section of this package insert. Sodium azide has been reported to form lead or copper azide in laboratory plumbing. These azides may explode upon percussion, such as hammering. To prevent formation of lead or copper azide, flush drains thoroughly with water after disposing of solutions containing sodium azide. To remove contamination from old drains suspected of azide accumulation, the National Institute for Occupational Safety and Health recommends the following: (1) siphon liquid from trap using a rubber or plastic hose, (2) fill with 10% sodium hydroxide solution, (3) allow to stand for 16 hours, and (4) flush well with water.

• The components containing Sodium Azide are classified per the applicable European Community (EC) Directives as: Hazard (Xn). The following are the appropriate Risk (R) and Safety (S) phrases.

<table>
<thead>
<tr>
<th>R</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>R22</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>R32</td>
<td>Contact with acids liberates very toxic gas.</td>
</tr>
<tr>
<td>S35</td>
<td>This material and its container must be disposed of in a safe way.</td>
</tr>
<tr>
<td>S36</td>
<td>Wear suitable protective clothing.</td>
</tr>
<tr>
<td>S46</td>
<td>If swallowed, seek medical advice immediately and show this container or label.</td>
</tr>
</tbody>
</table>

**Probe Wash contains Sodium Azide and a mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1) (a component of ProClin) and is classified per the applicable European Community (EC) Directives as: Harmful (Xn). The following are the appropriate Risk (R) and Safety (S) phrases.**

<table>
<thead>
<tr>
<th>R</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>R22</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>R32</td>
<td>Contact with acids liberates very toxic gas.</td>
</tr>
<tr>
<td>R43</td>
<td>May cause sensitisation by skin contact.</td>
</tr>
<tr>
<td>S35</td>
<td>This material and its container must be disposed of in a safe way.</td>
</tr>
<tr>
<td>S36/37</td>
<td>Wear suitable protective clothing and gloves.</td>
</tr>
<tr>
<td>S46</td>
<td>If swallowed, seek medical advice immediately and show this container or label.</td>
</tr>
</tbody>
</table>
• Conjugate Wash and Probe contain a mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1) (a component of ProCln) and is classified per applicable European Community (EC) Directives as: Irritant (X). The following are the appropriate Risk (R) and Safety (S) phrases.

R43 May cause sensitisation by skin contact.
S24 Avoid contact with skin.
S35 This material and its container must be disposed of in a safe way.
S37 Wear suitable gloves.
S46 If swallowed, seek medical advice immediately and show this container or label.

• The ABBOTT PRISM Activator Diluent contains Sodium Hydroxide and is classified per the applicable European Community (EC) Directives as: Irritant (Xi). The following are the appropriate Risk (R) and Safety (S) phrases.

R36 Irritating to eyes.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S35 This material and its container must be disposed of in a safe way.
S46 If swallowed, seek medical advice immediately and show this container or label.

For product not classified as dangerous per European Directive 1999/45/EC as amended - Safety data sheet available for professional user on request.

Handling Precautions
• Do not use kits beyond the expiration date.
• Gently invert each component several times prior to loading on the ABBOTT PRISM System to ensure a homogenous solution. Avoid foaming. Each component of the ABBOTT PRISM HTLV-I-HTLV-II Wash Kit should be at room temperature (30°C) before mixing.
• Do not mix reagents from different bottles. Do not mix reagents from different assay kit lots.
• Any lot of ABBOTT PRISM HTLV-I-HTLV-II Wash Kit can be used with any lot of ABBOTT PRISM HTLV-I-HTLV-II Assay Kit.
• Avoid microbial and chemical contamination of samples, reagents, and equipment. The use of disposable pipette tips is recommended for any preliminary sample transfer.
• Do not freeze reagents.
• Failure to adhere to instructions in the ABBOTT PRISM Operations Manual or Package Insert may result in erroneous results.
• Use caution when handling samples, reagent bottles, and reagent caps to prevent cross contamination.

Additional safety and handling precautions and limitations for the assay kit, calibrators, specimens, controls, and other reagents are described in the ABBOTT PRISM Operations Manual, Section 7.

PREPARATION OF ACTIVATOR SOLUTION
Activator Solution is prepared daily by mixing equal parts of Activator Concentrate and Activator Diluent. The volume of Activator Solution required for multiple tests is calculated by the ABBOTT PRISM software. Refer to the ABBOTT PRISM Operations Manual, Section 5, under Plan Work Load, for additional information. Use clean pipettes and/or metal-free containers (such as plasticware or acid-washed and distilled or deionized water-rinsed glassware) to measure. Prepare in the bottle provided in the Accessory Kit. Cover the bottle opening securely with the cap provided and invert gently five to ten times to mix. Load the Activator Solution to the ABBOTT PRISM System following the ABBOTT PRISM Operations Manual, Section 5, under Prepare and Load Activator Solution, for additional information.

NOTE: The Activator Solution must be used within 24 hours of preparation.

STORAGE INSTRUCTIONS
• Store the ABBOTT PRISM HTLV-I-HTLV-II Assay Kit, ABBOTT PRISM Run Control Kit, ABBOTT PRISM Positive Run Control Kit, and ABBOTT PRISM Activator Concentrate at 2 to 8°C.
• Store the ABBOTT PRISM HTLV-I-HTLV-II Wash Kit and ABBOTT PRISM Activator Diluent at room temperature (15 to 30°C).
• Store ABBOTT PRISM Pipette Tips and ABBOTT PRISM Reaction Trays in their original package until use.

INDICATIONS OF INSTABILITY OR DETERIORATION OF REAGENTS
The ABBOTT PRISM System will not continue to process samples when calibrator or Positive Control values do not meet specifications. This may indicate either deterioration or contamination of reagents, or instrument failure. Refer to the ABBOTT PRISM Operations Manual, Section 10, for additional information.

INSTRUMENT PROCEDURE
• Refer to the ABBOTT PRISM Operations Manual for a detailed description of Instrument Procedures.
• Solutions required for instrument cleaning and maintenance are described in detail in the ABBOTT PRISM Operations Manual, Sections 5 and 9.
• For optimal performance, it is important to follow the routine maintenance procedures defined in the ABBOTT PRISM Operations Manual, Section 9.

SPECIMEN COLLECTION AND PREPARATION FOR ANALYSIS
• Either serum (including serum collected in serum separator tubes) or plasma collected in EDTA, Sodium Heparin, Potassium Oxalate, Sodium Citrate, ACD, CP2D, CPD, or CPDA-1 anticoagulants may be used with the ABBOTT PRISM HTLV-I-HTLV-II assay.
• This assay was designed and validated for use with human serum or plasma from individual donor specimens. Pooled specimens must not be used.
• Heat-inactivated specimens should be avoided.
• Gravity separation is not sufficient for specimen preparation. Specimens collected by plasmapheresis which have not been frozen do not require centrifugation. All other specimens (including previously frozen plasmapheresis specimens) must be centrifuged.

Non-frozen specimens (excluding non-frozen plasmapheresis specimens) must be centrifuged such that g-minutes (the product of relative centrifugal force [RCF] and centrifugation time [minutes]) is between 30,000 and 75,000. The following chart lists acceptable time and force ranges that meet this criteria.

<table>
<thead>
<tr>
<th>Time (minutes)</th>
<th>RCF (x g)</th>
<th>RCF x Time (g-minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>1,000</td>
<td>30,000</td>
</tr>
<tr>
<td>15</td>
<td>2,000 - 3,000</td>
<td>30,000 - 45,000</td>
</tr>
<tr>
<td>20</td>
<td>1,500 - 3,000</td>
<td>30,000 - 60,000</td>
</tr>
<tr>
<td>25</td>
<td>1,300 - 3,000</td>
<td>32,500 - 75,000</td>
</tr>
</tbody>
</table>

Convert rpm to RCF as follows: RCF = 1.12 × \( \frac{rpm}{1000} \)

Convert RCF to rpm as follows: rpm = \( \frac{1000 \times RCF}{1.12} \)

RCF - The relative centrifugal force generated during centrifugation.
rpm - The rotation per minute of the rotor on which the specimens are being spun (usually the digital readout on the centrifuge will indicate rpm).
Time - The time should be measured from the time the rotor reaches the required RCF or rpm to the time it begins decelerating.
\( f_{\text{max}} \) - Radius of the rotor in millimeters. The radius measured is dependant on whether the rotor is a fixed angle rotor or a swinging bucket rotor. This value is typically provided with the rotor, by the manufacturer.
g-minutes - the unit of measure for the product of RCF (x g) and time (minutes). 
NOTE: For fixed angle, \( f_{\text{max}} \) is a measure of the distance from the rotor axis (center) to the bottom of the tube cavity. For the swinging bucket, \( f_{\text{max}} \) is a measure of the distance from the rotor axis (center) to the bottom of the tube while it is extended during rotation.

Previously frozen specimens must be centrifuged such that g-minutes (the product of relative centrifugal force [RCF] and centrifugation time [minutes]) is between 180,000 and 300,000. The following chart lists acceptable time and force ranges that meet this criteria.

<table>
<thead>
<tr>
<th>Time (minutes)</th>
<th>RCF (x g)</th>
<th>RCF x Time (g-minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>12,000</td>
<td>180,000</td>
</tr>
<tr>
<td>20</td>
<td>9,000 - 12,000</td>
<td>180,000 - 240,000</td>
</tr>
<tr>
<td>25</td>
<td>7,200 - 12,000</td>
<td>180,000 - 300,000</td>
</tr>
</tbody>
</table>

ANY specimen (excluding non-frozen plasmapheresis) not tested within 24 hours of initial centrifugation, must be re-centrifuged from 30,000 to 75,000 (g-minutes) as defined for non-frozen specimens.

NOTE: If re-testing a specimen within 24 hours of initial centrifugation, the specimen is not required to be re-centrifuged.

FAILURE TO FOLLOW THE SPECIFIED CENTRIFUGATION PROCEDURE MAY GIVE ERRONEOUS OR INCONSISTENT RESULTS
• Specimens may be stored at 2 to 8°C for up to fourteen days. If storage periods greater than fourteen days are anticipated, the serum or plasma should be removed from the clot or red blood cells to avoid hemolysis. Store the serum or plasma frozen (-10°C or colder).
• Previously frozen specimens must be mixed thoroughly after thawing and centrifuged according to the table in this section.
• Although 10 nonreactive and 10 low-level reactive specimens showed no qualitative performance differences when subjected to 6 freeze-thaw cycles, multiple freeze-thaw cycles should be avoided.

NOTE: Some specimens nonreactive for anti-HTLV-I and/or anti-HTLV-II that have been subjected to frozen storage have exhibited non-specific reactivity in the ABBOTT PRISM HTLV-I-HTLV-II assay.

• Clear, non-hemolyzed specimens should be used when possible. Specimens containing particulate matter may give erroneous or inconsistent test results.
• No qualitative performance differences were observed when nonreactive and low-level reactive specimens (plasma CP2D) were tested with elevated levels of bilirubin (≤ 20 mg/dL), hemoglobin (≤ 500 mg/dL), and lipids (≤ 3,000 mg/dL).
• When shipped, specimens must be packaged and labeled in compliance with applicable regulations covering the transport of clinical specimens and etiologic agents. Specimens may be shipped under ambient conditions, refrigerated on wet ice (2 to 8°C), or frozen on dry ice (-10°C or colder). Prior to freezing, the specimen should be removed from the clot or red cells.

• Performance has not been established for cadaver specimens, umbilical cord blood, or body fluids such as urine, saliva, semen, amniotic fluid, cerebrospinal fluid, or pleural fluid.

Specimen Volume
The specimen volume required to perform a single assay on the ABBOTT PRISM System varies according to the different specimen containers. For ABBOTT PRISM Sample Cups, the minimum specimen volume required for one assay is 400 µL. The ABBOTT PRISM HTLV-I/HTLV-II Assay requires 100 µL sample dispense. For volume requirements for each additional assay performed from the same specimen container and for volume requirements in primary or aliquot tubes, refer to the ABBOTT PRISM Operations Manual, Section 5.

ABBOTT PRISM HTLV-I/HTLV-II PROCEDURE

Materials Required but not Provided
• 1A75-02 or 3L27-02 ABBOTT PRISM [ACTIVATOR CONCENTRATE]
• 1A75-01 or 3L27-01 ABBOTT PRISM [ACTIVATOR DIULUENT]
• 5A07-01 ABBOTT PRISM [REACTION TRAYS]
• 5A07-10 ABBOTT PRISM [PIPETTE TIPS]
• 6A36-60 ABBOTT PRISM Accessory Kit

Additional Materials Available
• 1A75-10 or 3L27-10 ABBOTT PRISM [ACTIVATOR LINE TREATMENT]
• 2K24-10 ABBOTT PRISM Run Control Kit
• 2K24-11 ABBOTT PRISM Positive Run Control Kit
• 4B48-10 ABBOTT PRISM Run Control Kit
• 4B48-11 ABBOTT PRISM Positive Control Kit
• 5E22-10 ABBOTT PRISM Run Control Kit
• 5E22-11 ABBOTT PRISM Positive Run Control Kit
• 6A36-31 ABBOTT PRISM [RUN CONTROL ADAPTERS]
• 7A03-01 or 3L00-01 ABBOTT PRISM [PRIME/PURGE ACCESSORIES]
• 7A03-30 or 3L00-30 ABBOTT PRISM [PURGE CONCENTRATE]
• 7A03-31 ABBOTT PRISM [LINE CLEANER]
• 7B36-01 ABBOTT PRISM [SAMPLE CUPS]

ABBOTT PRISM ASSAY PROCEDURE
For detailed information concerning batch time and maximum batch size, refer to the ABBOTT PRISM Operations Manual, Section 2.

STEP 1:
• Enter a Plan Workload (refer to ABBOTT PRISM Operations Manual, Section 5).

• Replace reagents as needed.

NOTE: Gently invert each component several times prior to loading on the ABBOTT PRISM System to ensure a homogenous solution. Additional gentle inversion may be required to thoroughly resuspend microparticles. Avoid foaming. Each component of the ABBOTT PRISM HTLV-I/HTLV-II Wash Kit should be at room temperature (15 to 30°C) before mixing.

• Verify that all tubing label symbols match the symbols on each reagent label. (Refer to the symbol key in the Reagents section.)

• Verify that all tubing is securely fastened to the corresponding wash and reagent bottles.

STEP 2:
• Inspect the waste containers. Empty and clean as defined in the ABBOTT PRISM Operations Manual, Section 9, if necessary.

STEP 3:
• Prepare Activator Solution (refer to the Preparation of Activator Solution section of this package insert) and load into the ABBOTT PRISM System.

STEP 4:
• Verify adequate number of Reaction Trays are in the Tray Loader.

STEP 5:
• Verify adequate number of Pipette Tips are in the Pipette Tip Racks.

STEP 6:
• Perform the prime procedure (refer to the ABBOTT PRISM Operations Manual, Section 5).

STEP 7:
• After the Calibrators and Positive Assay Control have been pipetted, remove Calibrator Rack. Close the Calibrator/Positive Assay Control bottles and return to 2 to 8°C storage.

STEP 8:
• Each sample is initially tested once. Sample Racks may be removed after the samples have been pipetted.

STEP 9:
• After the run is complete, perform the purge procedure (refer to the ABBOTT PRISM Operations Manual, Section 5).

STEP 10:
• Any specimen (excluding non-frozen plasmapheresis) that is initially reactive must be centrifuged according to the table in the Specimen Collection and Preparation for Analysis section and retested in duplicate (refer to the ABBOTT PRISM Operations Manual, Section 5).

NOTE: Specimen retested within 24 hours of initial centrifugation do not require recentrifugation.

STEP 11:
• Refer to the ABBOTT PRISM Operations Manual, Section 3, for a detailed description of ChLIA procedures.

QUALITY CONTROL PROCEDURES
Calibration
The ABBOTT PRISM HTLV-I/HTLV-II Negative and Positive Calibrators and the HTLV-II Positive Assay Control (1) are tested in triplicate automatically at the beginning of each batch. The ABBOTT PRISM System will not release results when Calibrator or Positive Assay Control values do not meet specifications. This may indicate either deterioration or contamination of reagents, or instrument failure.

Controls
1. A release control MUST be included as the last sample in each batch. A control such as the ABBOTT PRISM Positive Control or any customer-specified control reactive for anti-HTLV-I and/or anti-HTLV-II may be used. This control must test reactive in order to validate system functionality and to release results. If this control does not test reactive, refer to the ABBOTT PRISM Operations Manual, Section 10.

2. ABBOTT PRISM Run Control Handling Procedure
   a. Place each Run Control bottle into an adapter such that when the flip-top cap is opened, it can be snapped into an open position within the adapter.
   b. Place each Run Control within an adapter onto the Sample Rack. The controls can be placed in any rack position except 1, 2, 27, or 28.
   c. As mentioned above, place an ABBOTT PRISM Positive Control after the last sample tested in the batch. The controls can be placed in any rack position except 1, 2, 27, or 28.

3. Customer-Specified Control Handling Procedure
   a. Determine the volume of controls required. The control volume required to perform a single assay on the ABBOTT PRISM System varies according to the different specimen containers. For ABBOTT PRISM Sample Cups, the minimum control volume required for one assay is 600 µL (400 µL + 200 µL Sample Cup dead volume). For every additional assay performed from the same control container, an additional 200 µL is required. For volume requirements in primary or aliquot tubes, refer to the ABBOTT PRISM Operations Manual, Section 5.
   b. Refer to the ABBOTT PRISM Operations Manual, Section 5: Operating Instructions, Subsection: Sample Processing.

4. Additional controls may be run at the operator’s discretion. Validity specifications may be assigned such that if these controls fail, no results are reported for that assay batch.

ASSAY PARAMETER SPECIFICATIONS
The PRISM assay parameter specifications have been factory set. These parameters cannot be printed, displayed, or edited.
RESULTS
Calculation of Cutoff and S/CO Values
The ABBOTT PRISM System calculates the ABBOTT PRISM HTLV-I/HTLV-II assay cutoff value using the following formula:

\[ \text{Cutoff} = \text{Mean Positive Calibrator Net Counts} \times 0.15 + \text{Mean Negative Calibrator Net Counts} \]

Example: If the Mean NCC = 1,100, and the Mean PCC = 6,900, 1,100 + (0.15 \times 6,900) = 2,135

Cutoff = 2,135

* The Positive Calibrator, HTLV-II Positive Assay Control (1), and Negative Calibrator Mean Net Counts are calculated using the two lowest replicates. An Instrument Code (02-211) will be displayed in place of the count value for the third replicate. Each of the two remaining replicates of the Positive Calibrator and the Negative Calibrator used to calculate the cutoff must meet all specifications.

The ABBOTT PRISM System calculates the ABBOTT PRISM HTLV-I/HTLV-II assay S/CO using the following formula:

\[ \text{S/CO} = \frac{\text{Sample Net Counts}}{\text{Cutoff}} \]

Example: If the Sample Net Counts = 3,000, and the Cutoff = 2,135, 3,000 / 2,135 = 1.41

S/CO = 1.41

INTERPRETATION OF RESULTS
In the ABBOTT PRISM HTLV-I/HTLV-II assay, specimens with Net Counts less than the cutoff value are considered nonreactive and need not be tested further. Specimens with Net Counts greater than or equal to the cutoff value are considered initially reactive. All specimens that are reactive on initial testing must be centrifuged according to the table in the Specimen Collection and Preparation for Analysis section of this package insert and retested in duplicate.

NOTE: If re-testing a specimen within 24 hours of the initial centrifugation, the specimen is not required to be re-centrifuged.

If repeat testing shows the Net Counts for both retests to be less than the cutoff value, the specimen is nonreactive. If the Net Counts of either retest are greater than or equal to the cutoff value, the specimen is repeatedly reactive. Repeatedly reactive specimens should be investigated further by supplemental tests such as immunobLOTS, immunoprecipitation or immunofluorescent assays. ABBOTT PRISM reports display sample results in Net Counts and/or S/CO. Net Counts are used by ABBOTT PRISM to interpret results. The S/CO value is provided to indicate relative reactivity to the cutoff value. In the ABBOTT PRISM HTLV-I/HTLV-II assay, specimens with S/CO values of less than 1.00 are considered nonreactive. Specimens with an S/CO value of greater than or equal to 1.00 are considered reactive. For details on configuring the ABBOTT PRISM System to use Grayzone Interpretations, refer to the ABBOTT PRISM Operations Manual, Section 2.

READING RESULTS
Some S/CO values may be flagged with "<" or ">" symbols. Refer to the ABBOTT PRISM Operations Manual, Section 5.

SYSTEM ERRORS
For a description of the error codes that appear in the ABBOTT PRISM Report, refer to the ABBOTT PRISM Operations Manual, Section 10.

LIMITATIONS OF THE PROCEDURE

• Testing of previously frozen samples with the ABBOTT PRISM HTLV-I/HTLV-II assay may cause an increase in non-specific reactivity.
• The ABBOTT PRISM HTLV-I/HTLV-II assay does not discriminate between HTLV-I and HTLV-II antibody reactivity.
• This assay was designed and validated for use with human serum or plasma from individual patient and donor specimens. Pooled specimens must not be used since the accuracy of their test results has not been validated.
• It is recommended that repeatedly reactive specimens be investigated by supplemental testing. Individuals who are repeatedly reactive should be referred for medical evaluation which may include additional testing.
• False reactive results can be expected with any test kit. Falsely elevated results have been observed due to non-specific interactions (see Table II).
• Performance has not been established for body fluids other than serum or plasma.
• Previously frozen specimens must be centrifuged per the Specimen Collection and Preparation for Analysis section of this package insert prior to running the assay.
• Serum from heparinized patients may be incompletely coagulated. Erroneous or inconsistent results may occur due to the presence of fibrin. To prevent this phenomenon, draw specimen prior to heparin therapy.
• The use of specimens with obvious microbial contamination should be avoided.
• Although the association of infectivity and the presence of anti-HTLV-I/HTLV-II is strong, it is recognized that presently available methods for anti-HTLV-I/HTLV-II detection are not sensitive enough to detect all potentially infectious units of blood or possible cases of HTLV-I/HTLV-II infection.

• The interpretation of results of specimens found repeatedly reactive by the ABBOTT PRISM HTLV-I/HTLV-II assay and negative or indeterminate on additional supplemental testing is unclear. Further clarification may be obtained by testing another specimen from the same patient taken 3 to 6 months later.

EXPECTED RESULTS
In a random population of 6,678 volunteer blood donor specimens, four (0.06%) were reactive by the ABBOTT PRISM HTLV-I/HTLV-II assay. Among 148 preselected anti-HTLV-I positive and 148 preselected anti-HTLV-II positive specimens, the ABBOTT PRISM HTLV-I/HTLV-II assay detected 100.00% as repeatedly reactive.

SPECIFIC PERFORMANCE CHARACTERISTICS
Precision
Assay reproducibility was determined by assaying a 28 member panel consisting of four replicates each of three diluted specimens reactive for anti-HTLV-I (panel members 1, 2, and 3), three diluted specimens reactive for anti-HTLV-II (panel members 4, 5, and 6) and one specimen nonreactive for anti-HTLV-I or anti-HTLV-II (panel member 7). The panel was tested in five runs over five days with each of three master lots at a total of three sites. The intra- and inter-run standard deviation (SD) and percent coefficient of variation (%CV) were analyzed with a variance components analysis, using a nested analysis of variance model[2] (Table I).

Mean S/CO is defined as the mean sample net counts (NET) divided by the calculated Cutoff.

\[ \text{Mean S/CO} = \frac{\text{Mean NET}}{\text{Cutoff}} \]

\[ \text{Mean S/CO} = \frac{1,100 + (0.15 \times 6,900)}{2,135} = 2,135 \]

\[ \text{Mean S/CO} = 1.41 \]

\[ \text{Mean S/CO} = 1.41 \]

The ABBOTT PRISM System calculates the ABBOTT PRISM HTLV-I/HTLV-II assay S/CO using the following formula:

\[ \text{S/CO} = \frac{\text{Sample Net Counts}}{\text{Cutoff}} \]

Example: If the Sample Net Counts = 3,000, and the Cutoff = 2,135, 3,000 / 2,135 = 1.41

S/CO = 1.41

* This term includes intra-run variability.

Specificity
The specificity of the ABBOTT PRISM HTLV-I/HTLV-II assay was estimated assuming a zero prevalence of HTLV-I and/or HTLV-II in volunteer blood donors and plasmapheresis donors.

A total of 6,678 serum and plasma specimens from volunteer blood donors and plasmapheresis donors was collected from four blood centers (Table II). Of the four repeatedly reactive specimens one was excluded as confirmed positive by DBL HTLV-II Western Blot, RIPA-I, and/or RIPA-II. Therefore, of the 6,677 donations presumed seronegative for anti-HTLV-I and anti-HTLV-II, ABBOTT PRISM HTLV-I/HTLV-II had an estimated specificity of 99.96% (6,674/6,677) with a 95% confidence interval of 99.97% to 99.99%.

Specimens from individuals with medical conditions unrelated to HTLV-I and/or HTLV-II infection or containing potentially interfering substances and specimens from random hospital patients were tested with the ABBOTT PRISM HTLV-I/HTLV-II assay (Table II).

a A confirmed positive result was defined by the presence of antibodies to two gene products (gag p24 and env gp46 or gp66/167) using Western Blot and/or RIPA.

### TABLE I

<table>
<thead>
<tr>
<th>Panel Member</th>
<th>Number of Replicates</th>
<th>Mean S/CO</th>
<th>Intra-run SD</th>
<th>Inter-run SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative Control</td>
<td>240</td>
<td>0.42</td>
<td>0.031</td>
<td>7.3</td>
</tr>
<tr>
<td>Positive Control</td>
<td>178</td>
<td>2.02</td>
<td>0.114</td>
<td>5.7</td>
</tr>
<tr>
<td>Supplemental</td>
<td>240</td>
<td>1.84</td>
<td>0.097</td>
<td>5.3</td>
</tr>
</tbody>
</table>

* This term includes intra-run variability.
TABLE II
Reactivity in Donor Populations, in Random Hospital Patients, and in Specimens from Individuals with Medical Conditions Unrelated to HTLV Infection or Containing Potentially Interfering Substances

<table>
<thead>
<tr>
<th>Group/Type</th>
<th>Number of Specimens Tested</th>
<th>Initially Reactive n (%)</th>
<th>Initially Reactive n (%)</th>
<th>Number of Specimens that were Confirmed Positive (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volunteer Serum Plasma Donors</td>
<td>3,089</td>
<td>0 (0.00)</td>
<td>0 (0.00)</td>
<td>3,081</td>
</tr>
<tr>
<td>TOTAL DONORS</td>
<td>6,678</td>
<td>5 (0.07)</td>
<td>4 (0.06)</td>
<td>1 (25.00)</td>
</tr>
</tbody>
</table>

Medical Conditions Unrelated to HTLV Infection and Potentially Interfering Substances

6,678 5 (0.07) 4 (0.06) 1 (25.00)

Medical Conditions Unrelated to HTLV Infection and Potentially Interfering Substances

622 22 (3.54) 194 (3.05) 1 (5.26)

Detectability

Preselected anti-HTLV-I positive and preselected anti-HTLV-II positive specimens and populations at increased risk of HTLV infection were tested with the ABBOTT PRISM HTLV-I/HTLV-II assay, but not confirmed.

TABLE III
Reactivity of the ABBOTT PRISM HTLV-I/HTLV-II Assay in Preselected Populations with HTLV Infection or at Increased Risk of HTLV Infection

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of Specimens Tested</th>
<th>Number of Specimens that were Confirmed Positive (%)</th>
<th>Supplemental Assay Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preselected Anti-HTLV-I Positive Populations</td>
<td>148</td>
<td>148 (100.00)</td>
<td>148 (100.00)</td>
</tr>
<tr>
<td>Preselected Anti-HTLV-II Positive Populations</td>
<td>148</td>
<td>148 (100.00)</td>
<td>148 (100.00)</td>
</tr>
<tr>
<td>Populations at Increased Risk of HTLV Infectionb</td>
<td>99</td>
<td>3 (3.03)</td>
<td>3 (3.00)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>395</td>
<td>299 (75.70)</td>
<td>299 (75.70)</td>
</tr>
</tbody>
</table>

BIBLIOGRAPHY
