MEMORANDUM FOR HIV Diagnostics and Reference Laboratory (HDRL) Customers

SUBJECT: Availability of ViroSeq HIV-1 Integrase Genotype Assay, Effective 07 July 2015

1. The purpose of this memo is to notify customers of the upcoming availability of the HIV-1 Integrase Genotype assay at HDRL. HIV-1 Integrase Genotype is not approved by FDA, it was developed and its performance characteristics determined by HDRL.

2. HIV-1 viral loads must be ≥2000 copies/ml and have been performed within 30 days for the assay to be performed. Note: if viral load is >1000 - <2000 copies/ml, testing may be performed, but a resistance profile may not be generated. (See HIV-1 Integrase Genotype Test Specification)

3. HIV-1 Integrase Genotype testing must be ordered concurrently with the HIV-1 Genotype assay on the Molecular Test Request Form.

4. The three drugs tested for resistance in the HIV-1 Integrase Genotype assay are as follows:
   a. Raltegravir
   b. Elvitegravir
   c. Dolutegravir

5. An example of HIV-1 Integrase Genotype report is attached. Treatment Decision should be made in consideration of all relevant clinical and laboratory findings and the prescribing information of the drug in question.

6. Please retain a copy of this memorandum for your records.

7. Point of contact is the undersigned at (301) 319-3173 or jstewart@hivresearch.org.

Encls
1. Molecular Test Request Form
2. Test Specification Form
2. Sample Report (3 pages)

[Signature]
JULIAN M. STEWART
CPT, USA
Lab Manager
HIV Diagnostics and Reference Laboratory
### Molecular Clinical Test Request Form

<table>
<thead>
<tr>
<th>TEST REQUESTED</th>
<th>SPECIMEN REQUIREMENT</th>
<th>DRAW TUBE</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV-1 Viral Load</td>
<td>3 mls plasma (frozen)</td>
<td>EDTA</td>
</tr>
<tr>
<td>APTIMA HIV-1 RNA Qualitative</td>
<td>3 mls plasma (frozen)</td>
<td>EDTA/SER/PPT</td>
</tr>
<tr>
<td>APTIMA HCV RNA Qualitative</td>
<td>3 mls plasma (frozen)</td>
<td>EDTA/SER/PPT</td>
</tr>
<tr>
<td>HIV-1 Resistance Genotyping</td>
<td>2 mls plasma (frozen)</td>
<td>EDTA/PPT</td>
</tr>
<tr>
<td>Viral Load Date: ___________ (dd/mmm/yyyy)</td>
<td>Result: __________ Copies/ml (within previous 30 days)</td>
<td></td>
</tr>
<tr>
<td>HIV-1 Integrase Genotyping</td>
<td>2 mls plasma (frozen)</td>
<td>EDTA/PPT</td>
</tr>
<tr>
<td>Viral Load Date: ___________ (dd/mmm/yyyy)</td>
<td>Result: __________ Copies/ml (within previous 30 days)</td>
<td></td>
</tr>
<tr>
<td>HIV-1 Phenotype</td>
<td>4 mls plasma each (frozen)</td>
<td>EDTA/PPT</td>
</tr>
<tr>
<td>HIV-1 Trofile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viral Load Date: ___________ (dd/mmm/yyyy)</td>
<td>Result: __________ Copies/ml (within previous 30 days)</td>
<td></td>
</tr>
<tr>
<td>Genotype Date: ___________ (dd/mmm/yyyy)</td>
<td>Current Therapeutic Regiment: __________</td>
<td></td>
</tr>
<tr>
<td>HIV-1 DNA PCR</td>
<td>3 mls whole blood (ambient)</td>
<td>EDTA</td>
</tr>
<tr>
<td>HIV-2 DNA PCR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ship Mon-Wed, within 24 hours of collection</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Patient Identification

Patient identifiers must include: Full Name*, DoD#, FMP#SSN#, DOB*

Ship Date: _____________

Sample Storage (circle): Frozen / Refrig
Sample Shipping (circle): Dry Ice / Cold Pack / Ambient

Specimen Draw Date / Time*: _____________

*Required

### Contact Information

POC*

Physician Name*

Clinic / Center*

Center Address*

Telephone Number

Fax Number

(Commercial # only; please include area/country code)

Alternate POC Name

Alternate POC Phone

### Processing Lab (For internal use only)

<table>
<thead>
<tr>
<th>BARCODE</th>
<th>DATE RECEIVED</th>
<th>QUANTITY &amp; TYPE RECEIVED / INITIALS</th>
</tr>
</thead>
</table>

Form TR MOL

Version July 2015
**SPECIMEN SUBMISSION GUIDELINES**
Department Of Laboratory Diagnostics And Monitoring
Walter Reed Army Institute Of Research
HIV Diagnostics and Reference Laboratory

## Test Specification

<table>
<thead>
<tr>
<th>Test Name: HIV-1 Integrate Genotype</th>
<th>Specimen Requirements</th>
<th>Transport/Storage Temperature</th>
<th>Test Approved For</th>
<th>Turn Around Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Significance: Intended for use in detecting genomic mutations in Integrate region of HIV-1 conferring resistance to specific types of antiretroviral drugs.</td>
<td>Two (2) vials of non-heparinized plasma at 1 ml per tube. Centrifuge at room temperature at 800-1600 x g for 20 minutes within separation times below: PPT Tubes: Centrifuge immediately or within 2 hours of collection. Store at ambient temperature for overnight delivery, or transfer to sterile 2.0 ml polypropylene screw-cap tubes at 1 ml per tube and store at -60 to -80°C. EDTA Plasma: Store blood at 25°C until centrifuged. Centrifuge within 4 hours of collection. Aliquot EDTA plasma to sterile 2.0 ml polypropylene screw cap tubes at 1 ml per tube. Store at -70°C.</td>
<td>PPT Tubes: Store spun tubes refrigerated (2-8°C) for overnight or same day delivery. If transport longer than overnight or same day, aliquot plasma, freeze at -70°C, then ship frozen. Store plasma frozen (-70°C or colder). EDTA Plasma: Store refrigerated (2-8°C) for overnight or same day delivery. If transport longer than overnight or same day, aliquot plasma, freeze at -70°C, then ship frozen. Store plasma frozen (-70°C or colder).</td>
<td>This test was developed and its performance characteristics determined by HDRL. It has not been cleared or approved by the US Food and Drug Administration.</td>
<td>15 business days after receipt at HDRL. Due to low volume of tests requested, samples are batched for testing.</td>
</tr>
<tr>
<td>Clinical Significance: Intended for use in conjunction with clinical presentation and other laboratory markers as an indicator of disease progression and as an assay to monitor or assess viral response to antiretroviral treatment</td>
<td></td>
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</tr>
<tr>
<td>The test is available for all patients who are: (1) initiating drug therapy; (2) not responding to antiretroviral drug therapy (low viral RNA level at 1,000 to 3,000 copies/ml); or (3) failing their antiretroviral regimen.</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>FDA-not approved, Laboratory Developed Test using commercially available test kit from Abbott Viroseq HIV-1 Integrate Genotype.</td>
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</tr>
<tr>
<td><strong>Please note:</strong> Patients presently on antiretroviral drug therapy should still be on their drug regimen when specimen collected.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Please note:</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1. Viral load MUST BE ≥ 2000 copies/ml and result must have been obtained within the past 30 days. Viroseq HIV-1 Integrate Genotype testing can be performed if viral load is between 1000 to 2000 copies /ml, but a resistance profile may not be generated.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. When requesting HIV-1 Integrate Genotype, requesting lab must provide most recent Viral Load result on request form at time of submission.</td>
<td></td>
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</tr>
<tr>
<td>3. If the patient has not had a Viral Load determination within the past 30 days, request a HIV-1 Viral Load along with the HIV-1 Integrate Genotype request.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4. Any specimen without a Viral Load reported (or a Viral Load requested) on the request form will need resolution and may affect Turn Around Time.</td>
<td></td>
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</tr>
<tr>
<td>5. Duplicate specimens will be discarded.</td>
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</tr>
<tr>
<td>6. Treatment Decision should be made in consideration of all relevant clinical and laboratory findings and the prescribing information of the drug in question.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Shipping Address: 9100 Brookville Road* BLDG. 508 * Silver Spring * MD 20910 * 301-319-3123 Tel * 301-319-3502 Fax
Drug Resistance:

<table>
<thead>
<tr>
<th>Drug</th>
<th>Trade Name</th>
<th>Evidence of Resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>(raltegravir, RAL)</td>
<td>ISENTRESS®</td>
<td>None</td>
</tr>
<tr>
<td>(elvitegravir, EVG)</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>(dolutegravir, DTG)</td>
<td></td>
<td>None</td>
</tr>
</tbody>
</table>

*EVG and DTG are in advanced clinical development. There are limited or no clinical data to support genotypic susceptibility scores for these compounds.*

Drug Resistance Mutations:

None

Additional Mutations:

G123S, A124T, R127K, N232D, A265V

Reference Co-existing with Mutations:

None

Nucleotide Variants:

ViroSeq™ Integrase Drug Resistance Report

Comments

Review & Release of Results

Signature / Date: ___________________________  Name(Print): / Title: ___________________________

Notes: ___________________________________
### Subject Information:
- Subject ID
- Subject Last Name
- Subject First Name
- Accession Number
- Subject Gender
- Subject Birthday
- Requestor
- Institution
- Date Drawn
- Assay Operator

### Site Information:
- **Testing Laboratory**: Military HIV Research Program
- **Lab Director**: Dr. Sheila Peel
- **Department**: HDRL
- **Street Address1**: 9100 Brookville Road
- **City**: Silver Spring
- **State/Province**: MD
- **Country**: USA
- **Postal Code**: 20910
- **Telephone**: 301-319-3123
- **Fax**:
- **E-mail**:
- **Web Site**:

### Run Information:
- **Run ID**: Run 2015-02-06-08-16-39-917
- **Instrument Model**: 3500
- **Instrument Serial Number**: 3500 Instrument