### Appendix B, Table 1. Characteristics of Nucleoside Reverse Transcriptase Inhibitors  
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<table>
<thead>
<tr>
<th>Generic Name (Abbreviation)</th>
<th>Trade Name</th>
<th>Formulations</th>
<th>Dosing Recommendations</th>
<th>Elimination</th>
<th>Serum/Intracellular Half-Lives</th>
<th>Adverse Events</th>
</tr>
</thead>
</table>
| Abacavir (ABC)              | Ziagen     | Abacavir: 300 mg tablet or 20 mg/mL oral solution | Abacavir: 600 mg once daily or 300 mg BID | Metabolized by alcohol dehydrogenase and glucuronyl transferase | 1.5 hours/12–26 hours | • HSRs: Patients who test positive for HLA-B*5701 are at highest risk. HLA screening should be done before initiation of ABC.  
• For patients with history of HSR, rechallenge is not recommended.  
• Symptoms of HSR may include fever, rash, nausea, vomiting, diarrhea, abdominal pain, malaise, fatigue, or respiratory symptoms such as sore throat, cough, or shortness of breath.  
• Some cohort studies suggest increased risk of MI with recent or current use of ABC, but this risk is not substantiated in other studies.  
• Insulin resistance/diabetes mellitus |
| Note: Generic available.    | Also available as a component of fixed-dose combinations (by trade name and abbreviation): | | | | | |
| Trizivir (ABC/ZDV/3TC)      | Trizivir: 600 mg once daily or 300 mg BID | Metabolized by alcohol dehydrogenase and glucuronyl transferase | Renal excretion of metabolites: 82% | Dosage adjustment for ABC is recommended in patients with hepatic insufficiency (see Appendix B, Table 7). |
| Note: Generic available.    | | | | | | |
| Epzicom (ABC/3TC)           | Epzicom: 1 tablet once daily | | | | | |
| Note: Generic available.    | | | | | | |
| Triumeq (ABC/3TC/DTG)       | Triumeq: 1 tablet once daily | | | | | |
| Note: Generic available.    | | | | | | |
| Didanosine (ddI)            | Videx: 125, 200, 250, and 400 mg capsules | Body Weight ≥60 kg: 400 mg once daily  
Body Weight <60 kg: 250 mg once daily  
With TDF: 200 mg once daily | Renal excretion: 50%  
Dosage adjustment in patients with renal insufficiency is recommended (see Appendix B, Table 7). |
| Note: Preferred dosing with oral solution is BID (total daily dose divided into 2 doses). | Body Weight ≥60 kg: 400 mg once daily  
Body Weight <60 kg: 250 mg once daily  
With TDF: 200 mg once daily | | | | | |
| Videx EC: 10 mg/mL oral solution | | | | | | |
| Videx EC: 125, 200, 250, and 400 mg capsules | | | | | | |
| Videx: 10 mg/mL oral solution | | | | | | |
| Note: Body Weight ≥60 kg: 400 mg once daily  
Body Weight <60 kg: 250 mg once daily  
With TDF: 200 mg once daily | Body Weight ≥60 kg: 400 mg once daily  
Body Weight <60 kg: 250 mg once daily  
With TDF: 200 mg once daily | | | | | |
| Body Weight ≥60 kg: 400 mg once daily  
Body Weight <60 kg: 250 mg once daily  
With TDF: 200 mg once daily | Body Weight ≥60 kg: 400 mg once daily  
Body Weight <60 kg: 250 mg once daily  
With TDF: 200 mg once daily | | | | | |
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Body Weight <60 kg: 250 mg once daily  
With TDF: 200 mg once daily | Body Weight ≥60 kg: 400 mg once daily  
Body Weight <60 kg: 250 mg once daily  
With TDF: 200 mg once daily | | | | | |
| Body Weight ≥60 kg: 400 mg once daily  
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With TDF: 200 mg once daily | Body Weight ≥60 kg: 400 mg once daily  
Body Weight <60 kg: 250 mg once daily  
With TDF: 200 mg once daily | | | | | |
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With TDF: 200 mg once daily | Body Weight ≥60 kg: 400 mg once daily  
Body Weight <60 kg: 250 mg once daily  
With TDF: 200 mg once daily | | | | | |
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Body Weight <60 kg: 250 mg once daily  
With TDF: 200 mg once daily | | | | | |
| Body Weight ≥60 kg: 400 mg once daily  
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Body Weight <60 kg: 250 mg once daily  
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With TDF: 200 mg once daily | | | | | |
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With TDF: 200 mg once daily | Body Weight ≥60 kg: 400 mg once daily  
Body Weight <60 kg: 250 mg once daily  
With TDF: 200 mg once daily | | | | | |
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Body Weight <60 kg: 250 mg once daily  
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Body Weight <60 kg: 250 mg once daily  
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Body Weight <60 kg: 250 mg once daily  
With TDF: 200 mg once daily | | | | | |
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Body Weight <60 kg: 250 mg once daily  
With TDF: 200 mg once daily | Body Weight ≥60 kg: 400 mg once daily  
Body Weight <60 kg: 250 mg once daily  
With TDF: 200 mg once daily | | | | | |
### Appendix B, Table 1. Characteristics of Nucleoside Reverse Transcriptase Inhibitors  *(Last updated October 17, 2017; last reviewed October 17, 2017)*  (page 2 of 6)

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<tr>
<th>Generic Name (Abbreviation)</th>
<th>Trade Name</th>
<th>Formulations</th>
<th>Dosing Recommendations*</th>
<th>Elimination</th>
<th>Serum/ Intracellular Half-Lives</th>
<th>Adverse Events*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emtricitabine</strong> (FTC)</td>
<td>Emtriva</td>
<td>Emtriva:</td>
<td>Emtriva Capsule:</td>
<td>Renal excretion: 86%</td>
<td>10 hours/&gt;20 hours</td>
<td>• Minimal toxicity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 200 mg hard gelatin capsule</td>
<td>• 200 mg once daily Oral Solution: • 240 mg (24 mL) once daily</td>
<td>Dosage adjustment in patients with renal insufficiency is recommended (see Appendix B, Table 7).</td>
<td></td>
<td>• Hyperpigmentation/skin discoloration</td>
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<tr>
<td></td>
<td></td>
<td>• 10 mg/mL oral solution</td>
<td>Take without regard to meals.</td>
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<td></td>
<td>• Severe acute exacerbation of hepatitis may occur in patients with HBV/HIV coinfection who discontinue FTC.</td>
</tr>
<tr>
<td><strong>Also available as a component of fixed-dose combinations (by trade name and abbreviation):</strong></td>
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<tr>
<td><strong>Atripla</strong> (FTC/EFV/TDF)</td>
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<td>Atripla:</td>
<td>Atripla:</td>
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<tr>
<td></td>
<td></td>
<td>• (FTC 200 mg + EFV 600 mg + TDF 300 mg) tablet</td>
<td>• 1 tablet at or before bedtime • Take on an empty stomach to reduce side effects.</td>
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<tr>
<td><strong>Complera</strong> (FTC/RPV/TDF)</td>
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<td>Complera:</td>
<td>Complera:</td>
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<tr>
<td></td>
<td></td>
<td>• (FTC 200 mg + RPV 25 mg + TDF 300 mg) tablet</td>
<td>• 1 tablet once daily with a meal</td>
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<tr>
<td><strong>Descovy</strong> (FTC/TAF)</td>
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<td>Descovy:</td>
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<tr>
<td></td>
<td></td>
<td>• (FTC 200 mg + TAF 25 mg) tablet</td>
<td>• 1 tablet once daily</td>
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<tr>
<td><strong>Genvoya</strong> (FTC/EVG/c/TAF)</td>
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<td>Genvoya:</td>
<td>Genvoya:</td>
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<tr>
<td></td>
<td></td>
<td>• (FTC 200 mg + EVG 150 mg + COBI 150 mg + TAF 10 mg) tablet</td>
<td>• 1 tablet once daily with food</td>
<td></td>
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<tr>
<td><strong>Odefsey</strong> (FTC/RPV/TAF)</td>
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<td>Odefsey:</td>
<td>Odefsey:</td>
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<tr>
<td></td>
<td></td>
<td>• (FTC 200 mg + RPV 25 mg + TAF 25 mg) tablet</td>
<td>• 1 tablet once daily with a meal</td>
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<tr>
<td><strong>Stribild</strong> (FTC/EVG/c/TDF)</td>
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<td>Stribild:</td>
<td>Stribild:</td>
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<tr>
<td></td>
<td></td>
<td>• (FTC 200 mg + EVG 150 mg + COBI 150 mg + TDF 300 mg) tablet</td>
<td>• 1 tablet once daily with food</td>
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<tr>
<td><strong>Truvada</strong> (FTC/TDF)</td>
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<td>Truvada:</td>
<td>Truvada:</td>
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<tr>
<td></td>
<td></td>
<td>• (FTC 200 mg + TDF 300 mg) tablet</td>
<td>• 1 tablet once daily</td>
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</tbody>
</table>
### Appendix B, Table 1. Characteristics of Nucleoside Reverse Transcriptase Inhibitors *(Last updated October 17, 2017; last reviewed October 17, 2017)* (page 3 of 6)

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<th>Elimination</th>
<th>Serum/Intracellular Half-Lives</th>
<th>Adverse Events</th>
</tr>
</thead>
</table>
| Lamivudine (3TC)           | Epivir     | Epivir:      | Epivir:                | Renal excretion: 70%  
Dosage adjustment in patients with renal insufficiency is recommended (see Appendix B, Table 7). | 5–7 hours/ 18–22 hours | • Minimal toxicity  
• Severe acute exacerbation of hepatitis may occur in patients with HBV/HIV coinfection who discontinue 3TC. |
| Note: Generic available.   |            | • 150 and 300 mg tablets  
• 10 mg/mL oral solution | • 300 mg once daily or  
• 150 mg BID  
Take without regard to meals. | | |
| Also available as a component of fixed-dose combinations (by trade name and abbreviation): | | | | |
| **Combivir** (3TC/ZDV)     | Combivir   | Combivir:    | Combivir:              | | | |
| Note: Generic available.   |            | • (3TC 150 mg + ZDV 300 mg) tablet | • 1 tablet BID | | |
| **Epzicom** (3TC/ABC)      | Epzicom    | Epzicom:     | Epzicom:               | | | |
| Note: Generic available.   |            | • (3TC 300 mg + ABC 600 mg) tablet | • 1 tablet once daily | | |
| **Trizivir** (3TC/ZDV/ABC) | Trizivir   | Trizivir:    | Trizivir:              | | | |
| Note: Generic available.   |            | • (3TC 150 mg + ZDV 300 mg + ABC 300 mg) tablet | • 1 tablet BID | | |
| **Triumeq** (3TC/ABC/DTG)  | Triumeq    | Triumeq:     | Triumeq:               | | | |
|                           |            | • (3TC 300 mg + ABC 600 mg + DTG 50 mg) tablet | • 1 tablet once daily | | |
| **Stavudine** (d4T)        | Zerit      | Zerit:       | Body Weight ≥60 kg:    | Renal excretion: 50%  
Dosage adjustment in patients with renal insufficiency is recommended (see Appendix B, Table 7). | 1 hour/ 7.5 hours | • Peripheral neuropathy  
• Lipoatrophy  
• Pancreatitis  
• Lactic acidosis/severe hepatomegaly with hepatic steatosis (rare but potentially life-threatening toxicity)  
• Hyperlipidemia  
• Insulin resistance/diabetes mellitus  
• Rapidly progressive ascending neuromuscular weakness (rare) |
| Note: Generic available.   |            | • 15, 20, 30, and 40 mg capsules  
• 1 mg/mL oral solution | • 40 mg BID  
Body Weight <60 kg:  
• 30 mg BID  
Take without regard to meals.  
**Note:** WHO recommends 30 mg BID dosing regardless of body weight. | | |
### Appendix B, Table 1. Characteristics of Nucleoside Reverse Transcriptase Inhibitors  *(Last updated October 17, 2017; last reviewed October 17, 2017)*  (page 4 of 6)

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<th>Elimination</th>
<th>Serum/Intracellular Half-Lives</th>
<th>Adverse Eventsb</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tenofovir Alafenamide (TAF)</strong></td>
<td>See fixed-dose combinations for HIV treatment below.</td>
<td>See fixed-dose combinations for HIV treatment below.</td>
<td>Metabolized by cathepsin A; P-glycoprotein substrate Not recommended in patients with CrCl &lt;30 mL/min.</td>
<td>0.5 hours/150–180 hours</td>
<td>• Renal insufficiency, Fanconi syndrome, proximal renal tubulopathy (less likely than from TDF) • Osteomalacia, decrease in bone mineral density (lesser effect than from TDF) • Severe acute exacerbation of hepatitis may occur in patients with HBV/HIV coinfection who discontinue TAF. • Diarrhea, nausea, headache</td>
</tr>
<tr>
<td><strong>Vemlidy</strong></td>
<td>Fixed-dose combinations for HIV are listed below (by trade name and abbreviation):</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Descovy (TAF/FTC)</strong></td>
<td>Descovy: (FTC 200 mg + TAF 25 mg) tablet</td>
<td>Descovy: 1 tablet once daily</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Genvoya (TAF/EVG/c/FTC)</strong></td>
<td>Genvoya: (TAF 10 mg + EVG 150 mg + COBI 150 mg + FTC 200 mg) tablet</td>
<td>Genvoya: 1 tablet once daily with food</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Odefsey (TAF/RPV/FTC)</strong></td>
<td>Odefsey: (TAF 25 mg + RPV 25 mg + FTC 200 mg) tablet</td>
<td>Odefsey: 1 tablet once daily with a meal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generic Name (Abbreviation)</td>
<td>Trade Name</td>
<td>Formulations</td>
<td>Dosing Recommendations&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Elimination</td>
<td>Serum/Intracellular Half-Lives</td>
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<tr>
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</tr>
<tr>
<td>Tenofovir Disoproxil Fumarate (TDF)</td>
<td>Viread.</td>
<td>• 150, 200, 250, and 300 mg tablets • 40 mg/g oral powder</td>
<td>Viread: • 300 mg once daily, or • 7.5 level scoops once daily (dosing scoop dispensed with each prescription; 1 level scoop contains 1 g of oral powder) • Take without regard to meals. Mix oral powder with 2–4 ounces of a soft food that does not require chewing (e.g., applesauce, yogurt). <strong>Do not mix oral powder with liquid.</strong></td>
<td>Renal excretion is primary route of elimination. Dosage adjustment in patients with renal insufficiency is recommended (see Appendix B, Table 7).</td>
<td>17 hours/ &gt;60 hours</td>
</tr>
<tr>
<td><strong>Also available as a component of fixed-dose combinations (by trade name and abbreviation):</strong></td>
<td></td>
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</tr>
<tr>
<td>Atripla (TDF/EFV/FTC)</td>
<td>Atripla.</td>
<td>• (TDF 300 mg + EFV 600 mg + FTC 200 mg) tablet</td>
<td>Atripla: • 1 tablet at or before bedtime • Take on an empty stomach to reduce side effects.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complera (TDF/RPV/FTC)</td>
<td>Complera.</td>
<td>• (TDF 300 mg + RPV 25 mg + FTC 200 mg) tablet</td>
<td>Complera: • 1 tablet once daily • Take with a meal.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stribild (TDF/EVG/c/FTC)</td>
<td>Stribild.</td>
<td>• (TDF 300 mg + EVG 150 mg + COBI 150 mg + FTC 200 mg) tablet</td>
<td>Stribild: • 1 tablet once daily • Take with food.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Truvada (TDF/FTC)</td>
<td>Truvada.</td>
<td>• (TDF 300 mg + FTC 200 mg) tablet</td>
<td>Truvada: • 1 tablet once daily • Take without regard to meals.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Appendix B, Table 1. Characteristics of Nucleoside Reverse Transcriptase Inhibitors  
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<th>Dosing Recommendations&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Elimination</th>
<th>Serum/Intracellular Half-Lives</th>
<th>Adverse Events&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
</table>
| Zidovudine (ZDV) Retrovir | Note: Generic available.  
Also available as a component of fixed-dose combinations (by trade name and abbreviation):  
**Retrovir**:  
• 100 mg capsule  
• 300 mg tablet (only available as generic)  
• 10 mg/mL intravenous solution  
• 10 mg/mL oral solution | Retrovir:  
• 300 mg BID, or  
• 200 mg TID  
• Take without regard to meals. | Metabolized to GAZT  
Renal excretion of GAZT  
Dosage adjustment in patients with renal insufficiency is recommended (see Appendix B, Table 7). | 1.1 hours/7 hours |  
• Bone marrow suppression: macrocytic anemia or neutropenia  
• Nausea, vomiting, headache, insomnia, asthenia  
• Nail pigmentation  
• Lactic acidosis/severe hepatomegaly with hepatic steatosis (rare but potentially life-threatening toxicity)  
• Hyperlipidemia  
• Insulin resistance/diabetes mellitus  
• Lipoatrophy  
• Myopathy |
| Combivir (ZDV/3TC) | Note: Generic available.  
**Combivir**:  
• (ZDV 300 mg + 3TC 150 mg) tablet | Combivir:  
• 1 tablet BID  
• Take without regard to meals. |  
| Trizivir (ZDV/3TC/ABC) | Note: Generic available.  
**Trizivir**:  
• (ZDV 300 mg + 3TC 150 mg + ABC 300 mg) tablet | Trizivir:  
• 1 tablet BID  
• Take without regard to meals. |  

<sup>a</sup> For dosage adjustment in renal or hepatic insufficiency, see Appendix B, Table 7.

<sup>b</sup> Also see Table 14.

**Key to Acronyms:**  
3TC = lamivudine; ABC = abacavir; BID = twice daily; COBI, c = cobicistat; CrCl = creatinine clearance; d4T = stavudine; ddI = didanosine; DTG = dolutegravir; EC = enteric coated; EFV = efavirenz; EVG = elvitegravir; FTC = emtricitabine; GAZT = azidothymidine glucuronide; HBV = hepatitis B virus; HLA = human leukocyte antigen; HSR = hypersensitivity reaction; MI = myocardial infarction; RPV = rilpivirine; TAF = tenofovir alafenamide; TDF = tenofovir disoproxil fumarate; TID = three times a day; WHO = World Health Organization; ZDV = zidovudine

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*Guidelines for the Use of Antiretroviral Agents in Adults and Adolescents Living with HIV*

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