Table 15: one of two pages

Table 15. Characteristics of Nucleoside Reverse Transcriptase Inhibitors (NRTIs)

Generic Name/Trade Name	Form	Dosing Recommendations	Food Effect	Oral Bio-availability	Serum half-life	Intracellular half-life	Elimination	Adverse Events
Abacavir (ABC) Ziagen®	300 mg tablets or 20 mg/mL oral solution	300 mg two times/day or with ZDV and 3TC as Trizivir‡, 1 dose two times/day	Take without regard to meals; Alcohol increases abacavir levels 41%; has no effect on alcohol	83%	1.5 hours	21 hours	Metabolized by alcohol dehydrogenase and glucuronyl transferase. Renal excretion of metabolites 82%	Hypersensitivity reaction which can be fatal)**; symptoms may include fever, rash, nausea, vomiting, malaise or fatigue, loss of appetite, respiratory symptoms such as sore throat, cough, shortness of breath
Didanosine (ddI) Videx®, Videx EC®	25, 50, 100, 150, 200 mg* chewable/ dispersible buffered tablets; 100, 167, 250 mg buffered powder for oral solution; 125, 200, 250, or 400 mg enteric coated capsules	Body weight ≥ 60kg: 400 mg once daily§ (buffered tablets or enteric coated capsule); or 200 mg two times/day (buffered tablets) Body weight < 60 kg: 250mg daily (buffered tablets or enteric coated capsule); or 125mg two times/day (buffered tablets)	Levels decrease 55%; Take 1/2 hour before or 2 hours after meal	30–40%	1.6 hours	25–40 hours	Renal excretion 50% Dosage adjustment in renal insufficiency	Pancreatitis¶; peripheral neuropathy; nausea; diarrhea Lactic acidosis with hepatic steatosis is a rare but potentially life-threatening toxicity associated with using of NRTIs.#
Emtricitabine (FTC) Emtriva™	200 mg hard gelatin capsule	200 mg once daily	Take without regard to meals	93%	10 hours	39 hours	Renal excretion Dosage adjustment in renal insufficiency	Minimal toxicity; lactic acidosis with hepatic steatosis (rare but potentially life-threatening toxicity with using of NRTIs.)
Lamivudine (3TC) Epivir®	150 mg and 300 mg tablets or 10 mg/mL oral solution	150 mg two times/day; or 300 mg daily With ZDV as Combivir†, or with ZDV and abacavir as Trizivir‡, 1 dose two times/day	Take without regard to meals	86%	5-7 hours	18 hours	Renal excretion Dosage adjustment in renal insufficiency	Minimal toxicity; lactic acidosis with hepatic steatosis (rare but potentially life-threatening toxicity with using of NRTIs.
Stavudine (d4T) Zerit	**Zerit®** 15, 20, 30, 40 mg capsules or 1mg/mL for oral solution **Zerit-XR®** 75 and 100 mg extended release capsule - FDA approved, not yet in market	**Zerit®:** Body weight ≥60 kg: 40 mg two times/day; Body weight <60kg: 30 mg two times/day **Zerit-XR®:** Body weight ≥60 kg: 100 mg once daily Body weight <60 kg: 75 mg once daily	Take without regard to meals	86%	1.0 hour	3.5 hours	Renal excretion 50% Dosage adjustment in renal insufficiency	• Peripheral neuropathy; • Lipodystrophy • Rapidly progressive ascending neuromuscular weakness (rare) • Pancreatitis¶ • Lactic acidosis with hepatic steatosis#

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Generic Name/Trade Name	Form	Dosing Recommendations	Food Effect	Oral Bio-availability	Serum half-life	Intracellular half-life	Elimination	Adverse Events
Tenofovir Disoproxil Fumarate Viread®	300 mg tablet	300 mg daily for patients with creatinine clearance ≥ 60 mL/min;	Take without regard to meals	25% in fasting state; 39% with high-fat meal	17 hours	10–50 hours	Renal excretion Dosage adjustment in renal insufficiency	Asthenia, headache, diarrhea, nausea, vomiting, and flatulence; lactic acidosis with hepatic steatosis (rare but potentially life-threatening toxicity with using of NRTIs – not yet reported with tenofovir use); rare reports of renal insufficiency.
Zalcitabine (ddC) Hivid®	0.375, 0.75 mg tablets	0.75 mg three times/day	Take without regard to meals	85%	1.2 hours	3 hours	Renal excretion 70% Dosage adjustment in renal insufficiency	• Peripheral neuropathy; • Stomatitis; • Lactic acidosis with hepatic steatosis (rare but potentially life-threatening toxicity with using of NRTIs); • Pancreatitis
Zidovudine (AZT, ZDV) Retrovir®	100 mg capsules, 300 mg tablets, 10 mg/mL intravenous solution, 10 mg/mL oral solution	300 mg two times/day or 200 mg three times/ day with lamivudine as Combivir†, 1 dose two times/day or, with abacavir and lamivudine as Trizivir‡, 1 dose two times/day	Take without regard to meals	60%	1.1 hours	3 hours	Metabolized to AZT glucuronide (GAZT). Renal excretion of GAZT	• Bone marrow suppression: anemia or neutropenia; • Subjective complaints: gastrointestinal intolerance, headache, insomnia, asthenia; • Lactic acidosis with hepatic steatosis (rare but potentially life-threatening toxicity associated with using NRTIs.

† Each Combivir tablet contains 300 mg zidovudine and 150 mg lamivudine.

‡ Each Trizivir tablet contains 300 mg zidovudine, 150 mg lamivudine, and 300 mg abacavir.

* For once-daily dosing only. Twice-daily dosing is preferred; however, once-daily dosing might be appropriate for patients who require a simplified dosing schedule.

§ Twice-daily dosing is preferred; however, once-daily dosing might be appropriate for patients who require a simplified dosing schedule.

¶ Cases of fatal and nonfatal pancreatitis have occurred among treatment-naïve and treatment-experienced patients during therapy with didanosine alone or in combination with other drugs, including stavudine, or stavudine plus hydroxyurea, or ribavirin.

Pregnant women might be at increased risk for lactic acidosis and liver damage when treated with the combination of stavudine and didanosine. This combination should be used for pregnant women only when the potential benefit outweighs the potential risk.

** Patients who experience signs or symptoms of hypersensitivity, which may include fever, rash, fatigue, nausea, vomiting, diarrhea, and abdominal pain, should discontinue abacavir as soon as a hypersensitivity reaction is suspected. Abacavir should not be restarted because more severe symptoms will recur within hours and may include life-threatening hypotension and death. Cases of abacavir hypersensitivity syndrome should be reported to the Abacavir Hypersensitivity Registry at 1-800-270-0425.