NRTIs for HIV (Drug Names)

NRTIs include two groups of medications; nucleoside reverse transcriptase inhibitors and nucleotide reverse transcriptase inhibitors. Nucleoside analog medications that disrupt viral DNA replication include Didanosine (DDI), Emtricitabine (FTC), Abacavir (ABC), Lamivudine (3TC), Stavudine (d4T), and Zidovudine (ZDV). In contrast, Tenofivir (TDF) is a nucleotide analog medication.



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Nucleoside Analog

DEALSZ
DEALSZ-tag
DEALSZ is an acryonym used to organize the nucleoside analog NRTIs. D-E-A-L-S-Z; Didanosine, Emtricitabine, Abacavir, Lamivudine, Stavudine, and Zidovudine.

Didanosine (DDI)
DD-eyes
Didanosine (DDI) works as an analog to adenosine. The most common adverse events with didanosine are diarrhea, nausea, vomiting, abdominal pain, fever, headache and rash. Patients can also develop peripheral neuropathy and non-cirrhotic portal hypertension.

Emtricitabine (FTC)
Electricity-bone
Emtricitabine is a nucleoside reverse transcriptase inhibitor, which works as an analog to cytidine. It is used to treat HIV, but also has clinical activity against Hepatitis B Virus. Side effects are rare, but include diarrhea, headache, nausea, and rash. More severe side effects include hepatotoxicity and lactic acidosis.

Abacavir (ABC)
ABC-cadaver
Abacavir (ABC) is a nucleoside analog reverse transcriptase inhibitor. This medication is an analog of guanosine, and is given orally, and has a high bioavailability. Common reactions include nausea, headache, fatigue, vomiting, hypersensitivity reaction, diarrhea, fever/chills, depression, rash, anxiety, URI, ALT, AST elevated, hypertriglyceridemia, and lipodystrophy.

Lamivudine (3TC)
Lamb-voodoo
Lamivudine is an analogue of cytidine. It can inhibit HIV reverse transcriptase, as well as the reverse transcriptase of hepatitis B virus.

Stavudine (d4T)
Staff-voodoo
Stavudine is an analog of thymidine, which inhibits the HIV reverse transcriptase by competing with natural substrate, thymidine triphosphate. It then leads to termination of DNA replication by incorporating into the DNA strand. Side effects of this drug include peripheral neuropathy and lipodystrophy, and for this reason it is less commonly used in patients from developed countries.

Zidovudine (ZDV)
Zombie-dove
Zidovudine, or ZDV, is also called AZT, for azidothymidine. It works by selectively inhibiting HIV's reverse transcriptase, the enzyme that the virus uses to make a DNA copy of its RNA. Side effects include anemia, neutropenia, hepatotoxicity, cardiomyopathy, and myopathy. Due to viral resistance, this is usually given as part of HAART.

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Nucleotide Analog

Tenofovir (TDF)

Tin-of-ears

Tenofivir is a nucleotide analogue reverse transcriptase inhibitor (NRTI), that inhibits reverse transcriptase. Reverse transcriptase is a crucial viral enzyme in human immunodeficiency virus and hepatitis B virus infections. The most common side effects associated with tenofovir include nausea, vomiting, diarrhea, and weakness. Renal complications include acute renal failure, Fanconi syndrome, proteinuria, or tubular necrosis.

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