



New Antiretroviral Drugs

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Currently, there are 20 individual antiretroviral drugs and four coformulation products categorized in four classes of drugs that are approved by the Food and Drug Administration (FDA) for the treatment of HIV-infected individuals. While the number of antiretroviral drugs available make it appear that there is a potential for a vast number of likely drug combinations, in reality, it is difficult to construct even three regimens that are reliably effective when given sequentially. This is primarily because of significant cross-resistance among agents of the same class. Therefore, the development and introduction into clinical practice of new antiretroviral drugs that overcome the issues that has plagued older agents, such as issues of resistance, tolerability, and complexity, is essential.

At present there are numerous antiretroviral drugs in various stages of preclinical and clinical development. Many of these drugs are new agents within the already existing classes of antiretrovirals and include D-d4FC, TMC125, capravirine, tipranavir, and TMC 114. Additionally, our continuously expanding knowledge of the biology of HIV has resulted in opportunities to target newer areas of the viral life cycle. Thus, new classes of antiretroviral drugs have been created. These new classes or categories of antiretroviral drugs include attachment inhibitors, chemokine inhibitors, fusion inhibitors, integrase inhibitors, and maturation inhibitors. Candidate drugs within each of these new classes are currently under development and will be briefly discussed.

There is a pipeline of new antiretroviral drugs in active development promising a continuation if not an improvement of the success of antiretroviral therapy. However, how many of these candidate drugs will complete the development and evaluation process and become available for clinical practice and their optimal role in the treatment of both treatment-experienced and treatment-naive patients remains to be seen.