

[Open Peer Review on Qeios](#)

Abacavir/Dolutegravir/Lamivudine

National Cancer Institute

Source

National Cancer Institute. *Abacavir/Dolutegravir/Lamivudine*. NCI Thesaurus. Code C157543.

A fixed combination of abacavir sulfate, a nucleoside reverse transcriptase inhibitor (NRTI) analog of guanosine; dolutegravir, an integrase strand-transfer inhibitor (INSTI); and lamivudine, an NRTI analog of cytidine, that may be used to treat human immunodeficiency virus (HIV) infection. Upon oral administration, abacavir and lamivudine are phosphorylated into active metabolites that inhibit the HIV reverse transcriptase (RT) enzyme competitively and act as a chain terminator of DNA synthesis. This interferes with the generation of DNA copies of viral RNA, which is necessary for the synthesis of new virions. Dolutegravir binds to the active site of integrase, an HIV enzyme that catalyzes the transfer of viral genetic material into human chromosomes. This prevents integrase from binding to retroviral deoxyribonucleic acid (DNA), and blocks the strand transfer step, which is essential for the HIV replication cycle. This further prevents HIV-1 replication.