

Product Name	: Tenofovir alafenamide fumarate
Synonyms	: Tenofovir alafenamide hemifumarate GS-7340 (hemifumarate)
Cat No.	: M20642
CAS Number	: 1392275-56-7
Molecular Formula	: C ₂₁ H ₂₉ N ₆ O ₅ P · 1/2 C ₄ H ₄ O ₄
Formula Weight	: 534.5
Chemical Name	: —
Description	Tenofovir alafenamide fumarate (TAF) is an oral phosphonoamidate prodrug of the HIV reverse transcriptase nucleotide inhibitor tenofovir (TFV). (In Vitro): Tenofovir alafenamide hemifumarate (GS-7340 hemifumarate) antiviral activities are similar across all cell types, ranging from 5 to 7 nM, while the CC₅₀ varies from 4.7 to 42 μM for MT-4 and MT-2 cells, respectively. The antiviral activity of TAF is evaluated against a panel of HIV-1 and HIV-2 isolates, including HIV-1 group M subtypes A to G, as well as group N and O isolates. Overall, for the 29 primary HIV-1 isolates tested in PBMCs, TAF EC₅₀s range from 0.1 to 12 nM, with a mean EC₅₀ of 3.5 nM compared to a mean EC₅₀ of 11.8 nM for AZT, which is used as an internal control. For the HIV-2 isolates, the mean EC₅₀s are 1.8 nM for TAF and 6.4 nM for AZT. (In Vivo): Tenofovir alafenamide hemifumarate (GS-7340 hemifumarate) is an amidate prodrug of Tenofovir with good oral bioavailability and increases plasma stability compared to Tenofovir disoproxil fumarate (TDF).
Pathway	: Microbiology/Virology
Target	: HIV
Receptor	: HIV-1
Solubility	: DMSO:50 mg/mL (93.55 mM)
SMILES	: <chem>OC(=O)C=C(C(=O)O)C(C)OC(=O)[C@H](C)N[P@](=O)(CO[C@H](C)Cn1cnc2c(N)ncnc12)Oc1cccc1.CC(C)OC(=O)[C@H](C)N[P@](=O)(CO[C@H](C)Cn1cnc2c(N)ncnc12)Oc1cccc1</chem>
Storage	: (-20°C)
Stability	: ≥ 2 years
Reference	:

1. Birkus G, Bam RA, Willkommet al. Intracellular Activation of Tenofovir Alafenamide and the Effect of Viral and Host Protease Inhibitors[J]. Antimicrob Agents Chemother. 2015 Oct 26;60(1):316-22.