

# Tenofovir (Disoproxil Fumarate)

Catalog No: tcsc1346



## Available Sizes

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**Size:** 10mg

**Size:** 50mg

**Size:** 100mg

**Size:** 200mg

**Size:** 500mg



## Specifications

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**CAS No:**

202138-50-9

**Formula:**

$C_{23}H_{34}N_5O_{14}P$

**Pathway:**

Anti-infection;Anti-infection;Anti-infection

**Target:**

HBV;Reverse Transcriptase;HIV

**Purity / Grade:**

>98%

**Solubility:**

DMSO :  $\geq 50$  mg/mL (78.68 mM); H<sub>2</sub>O : 16.67 mg/mL (26.23 mM); Need ultrasonic and warming)

**Alternative Names:**

Tenofovir DF

**Observed Molecular Weight:**

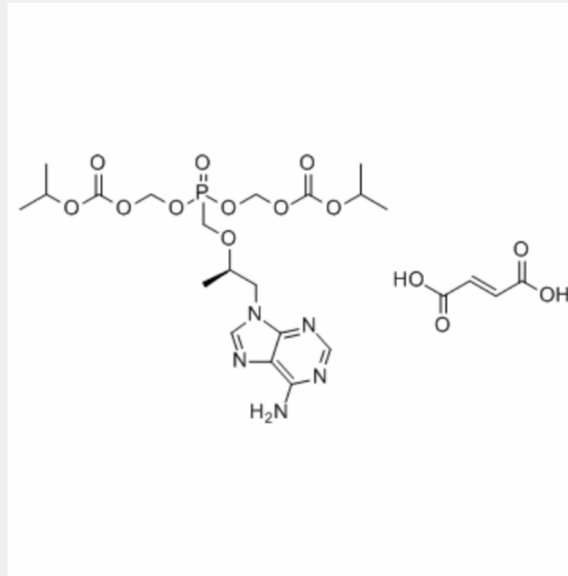
635.51

**Product Description**

Tenofovir Disoproxil Fumarate is a **nucleotide reverse transcriptase inhibitor** to treat HIV and chronic Hepatitis B.

**In Vitro:** Tenofovir shows cytotoxic effects on cell viability in HK-2 cells, with  $IC_{50}$  values of 9.21 and 2.77  $\mu$ M at 48 and 72 h in MTT assay, respectively. Tenofovir diminishes ATP levels in HK-2 cells. Tenofovir (3.0 to 28.8  $\mu$ M) increases oxidative stress and protein carbonylation in HK-2 cells. Furthermore, Tenofovir induces apoptosis in HK-2 cells, and that apoptosis is induced via mitochondrial damage<sup>[1]</sup>. Tenofovir and M48U1 formulated in 0.25% HEC each inhibits the replication of both R5-tropic HIV-1<sub>BaL</sub> and X4-tropic HIV-1<sub>IIIb</sub> in activated PBMCs, and inhibits several laboratory strains and patient-derived HIV-1 isolates. The combined formulation of M48U1 and tenofovir in 0.25% HEC exhibits synergistic antiretroviral activity against infection with R5-tropic HIV-1<sub>BaL</sub>, and is not toxic to PBMCs<sup>[2]</sup>.

**In Vivo:** Tenofovir Disoproxil Fumarate (20, 50, 140, or 300 mg/kg) administered to BLT mice, shows dose dependent activity during vaginal HIV challenge in BLT humanized mice. Tenofovir Disoproxil Fumarate (50, 140, 300 mg/kg) significantly reduces HIV transmission in BLT mice<sup>[3]</sup>. Tenofovir Disoproxil Fumarate (0.5, 1.5, or 5.0 mg/kg/day, p.o.) induces a dose-dependent decline in serum viremia in woodchucks chronically infected with WHV. Tenofovir Disoproxil Fumarate administration is safe and effective in the woodchuck model of chronic HBV infection<sup>[4]</sup>.



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!