**Tenofiv alafenamide hemifumarate**

Cat. No.: HY-15232B  
CAS No.: 1392275-56-7  
Molecular Formula: \( C_{21}H_{29}N_{6}O_{5}P \cdot \frac{1}{2} C_{4}H_{4}O_{4} \)  
Molecular Weight: 534.5  
Target: HIV; Reverse Transcriptase  
Pathway: Anti-infection  
Storage: Powder  
-20°C  3 years  
4°C  2 years  
In solvent  
-80°C  6 months  
-20°C  1 month

**SOLVENT & SOLUBILITY**

**In Vitro**  
DMSO: 50 mg/mL (93.55 mM; Need ultrasonic)  

<table>
<thead>
<tr>
<th>Concentration</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>1.8709 mL</td>
<td>9.3545 mL</td>
<td>18.7091 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.3742 mL</td>
<td>1.8709 mL</td>
<td>3.7418 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.1871 mL</td>
<td>0.9355 mL</td>
<td>1.8709 mL</td>
</tr>
</tbody>
</table>

Please refer to the solubility information to select the appropriate solvent.

**In Vivo**  
1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.5 mg/mL (4.68 mM); Clear solution  
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.5 mg/mL (4.68 mM); Clear solution  
3. Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: 2.5 mg/mL (4.68 mM); Clear solution; Need warming

**BIOLOGICAL ACTIVITY**

**Description**  
Tenofiv alafenamide hemifumarate (GS-7340 hemifumarate) is an investigational oral prodrug of Tenofovir. Tenofovir is a HIV-1 nucleotide reverse transcriptase inhibitor.

**IC\text{50} & Target**  
HIV-1, NRTIs\textsuperscript{[1]}

**In Vitro**

Tenofiv alafenamide hemifumarate (GS-7340 hemifumarate) antiviral activities are similar across all cell types,
ranging from 5 to 7 nM, while the CC\textsubscript{50} 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 EC\textsubscript{50}s range from 0.1 to 12 nM, with a mean EC\textsubscript{50} of 3.5 nM compared to a mean EC\textsubscript{50} of 11.8 nM for AZT, which is used as an internal control. For the HIV-2 isolates, the mean EC\textsubscript{50}s are 1.8 nM for TAF and 6.4 nM for AZT\textsuperscript{[2]}.

**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) \textsuperscript{[1]}.

**REFERENCES**


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Caution: Product has not been fully validated for medical applications. For research use only.

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