GDC-0077

Cat. No.: HY-101562
CAS No.: 2060571-02-8
Molecular Formula: C₁₈H₁₉F₂N₅O₄
Molecular Weight: 407.37
Target: PI3K; Apoptosis
Pathway: PI3K/Akt/mTOR; Apoptosis
Storage: Powder
-20°C 3 years
4°C 2 years
In solvent
-80°C 6 months
-20°C 1 month

SOLVENT & SOLUBILITY

<table>
<thead>
<tr>
<th>Solvent</th>
<th>Mass</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMSO</td>
<td>1 mM</td>
<td>2.4548 mL</td>
<td>12.2739 mL</td>
<td>24.5477 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.4910 mL</td>
<td>2.4548 mL</td>
<td>4.9095 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.2455 mL</td>
<td>1.2274 mL</td>
<td>2.4548 mL</td>
</tr>
</tbody>
</table>

* “≥” means soluble, but saturation unknown.

Preparing Stock Solutions

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

BIOLOGICAL ACTIVITY

Description
GDC-0077 (RG6114) is a potent, orally available, and selective PI3Kα inhibitor (IC₅₀ = 0.038 nM). GDC-0077 (RG6114) exerts its activity by binding to the ATP binding site of PI3K, thereby inhibiting the phosphorylation of PIP2 to PIP3. GDC-0077 (RG6114) is more selective for mutant versus wild-type PI3Kα[1].

IC₅₀ & Target
PI3Kα 0.038 nM (IC₅₀)

In Vitro
GDC-0077 (RG6114) is >300-fold more selective for PI3Kα over the other class I PI3K isoforms (β, δ, and γ) and >2000-fold more selective over PIK family members. GDC-0077 selectively degrades mutant PI3Kα in a proteasome-dependent fashion resulting in reduction of PI3K pathway activity biomarkers such as pAKT and pPRAS40, inhibition of cell proliferation, and increased apoptosis in human PIK3CA-mutant breast cancer cell lines to a greater extent when compared to PIK3CA wild-type cells[1].
In Vivo

GDC-0077 (p.o.) results in tumor regressions, induction of apoptosis, and a reduction of pAKT, pPRAS40, and pS6RP in a dose-dependent fashion in patient-derived PIK3CA-mutant breast cancer xenograft models\[1\].

---

REFERENCES

[1]. R Hong, Abstract PD4-14: GDC-0077 is a selective PI3Kalpha inhibitor that demonstrates robust efficacy in PIK3CA mutant breast cancer models as a single agent and in combination with standard of care therapies. 2017 San Antonio Breast Cancer Symposium.