**4SC-202 free base**

**Cat. No.:** HY-16012A  
**CAS No.:** 910462-43-0  
**Molecular Formula:** C₂₃H₂₁N₅O₃S  
**Molecular Weight:** 447.51  
**Target:** HDAC  
**Pathway:** Cell Cycle/DNA Damage; Epigenetics  
**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 : ≥ 58 mg/mL (129.61 mM)  
* “≥” means soluble, but saturation unknown.

<table>
<thead>
<tr>
<th>Solvent Concentration</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>2.2346 mL</td>
<td>11.1729 mL</td>
<td>22.3459 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.4469 mL</td>
<td>2.2346 mL</td>
<td>4.4692 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.2235 mL</td>
<td>1.1173 mL</td>
<td>2.2346 mL</td>
</tr>
</tbody>
</table>

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

**BIOLOGICAL ACTIVITY**

**Description**  
4SC-202 (free base) is a selective class I HDAC inhibitor with IC₅₀ of 1.20 μM, 1.12 μM, and 0.57 μM for HDAC1, HDAC2, and HDAC3, respectively. It also displays inhibitory activity against Lysine specific demethylase 1 (LSD1).

**IC₅₀ & Target**  
IC₅₀: 1.20 μM (HDAC1), 1.12 μM (HDAC2), 0.57 μM (HDAC3)[⁴]

**In Vitro**  
4SC-202 significantly reduces proliferation of all epithelial and mesenchymal UC cell lines (IC₅₀ 0.15-0.51 μM), inhibits clonogenic growth and induces caspase activity[¹]. 4SC-202 provokes apoptosis activation in CRC cells, while caspase inhibitors (z-VAD-CHO and z-DVED-CHO) significantly alleviate 4SC-202-exerted cytotoxicity in CRC cells. Meanwhile, 4SC-202 induces dramatic G2-M arrest in CRC cells. Further studies show that AKT activation might be an important resistance factor of 4SC-202. 4SC-202-induced cytotoxicity is dramatically potentiated with serum starvation, AKT inhibition (by perifosine or MK-2206), or AKT1-shRNA knockdown in CRC cells. On the other hand, exogenous expression of constitutively active AKT1 (CA-AKT1) decreases the sensitivity by 4SC-202 in HT-29 cells. Notably, 4SC-202, at a low concentration, enhances oxaliplatin-induced in vitro anti-CRC activity[²]. 4SC-202 treatment induces
potent cytotoxic and proliferation-inhibitory activities against established HCC cell lines (HepG2, HepB3, SMMC-7721) and patient-derived primary HCC cells. 4SC-202 induces apoptosis signal-regulating kinase 1 (ASK1) activation, causing it translocation to mitochondria and physical association with Cyp-D[3].

| In Vivo       | Oral gavage of 4SC-202 inhibits HT-29 xenograft growth in nude mice, and when combined with oxaliplatin, its activity is further strengthened[2]. |

REFERENCES


