Scriptaid

**Cat. No.:** HY-15489  
**CAS No.:** 287383-59-9  
**Molecular Formula:** $C_{18}H_{18}N_{2}O_{4}$  
**Molecular Weight:** 326.35  
**Target:** HDAC; Autophagy; Apoptosis; Influenza Virus  
**Pathway:** Cell Cycle/DNA Damage; Epigenetics; Autophagy; Apoptosis; Anti-infection  
**Storage:**  
- Powder: -20°C for 3 years, 4°C for 2 years, In solvent: -80°C for 2 years, -20°C for 1 year

### SOLVENT & SOLUBILITY

#### In Vitro

DMSO: 100 mg/mL (306.42 mM; Need ultrasonic)

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 mM</td>
<td>3.0642 mL</td>
<td>15.3210 mL</td>
<td>30.6419 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.6128 mL</td>
<td>3.0642 mL</td>
<td>6.1284 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.3064 mL</td>
<td>1.5321 mL</td>
<td>3.0642 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 (7.66 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
   Solubility: ≥ 2.5 mg/mL (7.66 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil  
   Solubility: ≥ 2.5 mg/mL (7.66 mM); Clear solution

### BIOLOGICAL ACTIVITY

**Description**  
Scriptaid is a potent histone deacetylase (HDAC) inhibitor, used in cancer research. Scriptaid is also a sensitizer to antivirals and has potential for Epstein-Barr virus (EBV)-associated lymphomas treatment.

**IC₅₀ & Target**  
HDAC

**In Vitro**  
Scriptaid (1 μg/mL) treatment inhibits cell growth in breast cancer cell lines, results in increased accumulation of both acetyl H3 and acetyl H4 proteins in MDA-MB-231, MDA-MB-435, and Hs578t cells. Scriptaid also inhibits cell growth of MDA-MB-231,
MDA-MB-435, and Hs578t cell lines, with IC_{50}s of 0.5-1.0 µg/mL. Scriptaid (0.1-1.0 µg/mL) induces ER and PR mRNA expression in a dose dependent manner; when it is combined with AZA, they enhance ER expression and induce a functional ER protein\(^1\). Scriptaid and SAHA preferentially inhibit the Class I histone deacetylases, hdac1, 2, and 3. Scriptaid is a potent anti-T. gondii compound with low cytotoxicity, and the IC_{50} is 39 nM. Scriptaid has atypical effects in T. gondiiinfected HS68 cells\(^2\). Scriptaid inhibits the growth of HeLa cells with IC_{50} of 2 µM at 48 h in a dose-dependent manner. Scriptaid also affects cell-cycle and apoptosis\(^3\).

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### In Vivo

| Scriptaid (3.5 µg/g mouse, i.p.) clearly inhibits tumor growth in a xenograft mouse model\(^4\). MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

### PROTOCOL

| Cell Assay\(^1\) | IC_{50} concentrations of Scriptaid are determined in MDA-MB-231, MDA-MB-435 and Hs578t cells by MTT assay. For cell growth assays, MDA-MB-231, MDA-MB-435, and Hs578t cells are plated at a cell density of 5000 cells/well in 12 well plates and treated with 1.0 µg/mL Scriptaid for up to 3 days. Cells are counted daily using a Coulter counter. Percent growth inhibition is determined by comparison of treated and untreated cells\(^1\). MCE has not independently confirmed the accuracy of these methods. They are for reference only. |
|---|
| Animal Administration \(^1\) | Four to six week old athymic female nude mice are housed under laminar flow hoods in an environmentally controlled pathogen free animal facility for the duration of experiments. Mice are injected with 2×10^6 MDA-MB-231 human breast cancer cells into each flank. Tumors are allowed to grow to approximately 0.1 cm^3 in diameter before treatment. Mice are then treated with Scriptaid (3.5 µg/g mouse), TSA (0.5 µg/g mouse), or DMSO vehicle intraperitoneally for five consecutive days with 2 days rest each week for a total of 4 weeks. Individual tumor measurements are recorded from each flank weekly \(^1\). MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

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### REFERENCES


