AMI-1

**Cat. No.:** HY-18962  
**CAS No.:** 20324-87-2  
**Molecular Formula:** C₂₁H₁₄N₂Na₂O₉S₂  
**Molecular Weight:** 548.45  
**Target:** Histone Methyltransferase  
**Pathway:** Epigenetics  
**Storage:** 4°C, sealed storage, away from moisture  
* In solvent: -80°C, 2 years; -20°C, 1 year (sealed storage, away from moisture)

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**SOLVENT & SOLUBILITY**

**In Vitro**

<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>H₂O</td>
<td>1 mM</td>
<td>1.8233 mL</td>
<td>9.1166 mL</td>
<td>18.2332 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.3647 mL</td>
<td>1.8233 mL</td>
<td>3.6466 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.1823 mL</td>
<td>0.9117 mL</td>
<td>1.8233 mL</td>
</tr>
</tbody>
</table>

Preparing Stock Solutions

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

**In Vivo**

1. Add each solvent one by one: PBS  
   Solubility: 100 mg/mL (182.33 mM); Clear solution; Need ultrasonic and warming and heat to 60°C
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
   Solubility: ≥ 2.5 mg/mL (4.56 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
   Solubility: ≥ 2.5 mg/mL (4.56 mM); Clear solution

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**BIOLOGICAL ACTIVITY**

**Description**

AMI-1 is a potent, cell-permeable and reversible inhibitor of protein arginine N-methyltransferases (PRMTs), with IC₅₀ of 8.8 μM and 3.0 μM for human PRMT1 and yeast-Hmt1p, respectively. AMI-1 exerts PRMTs inhibitory effects by blocking peptide-substrate binding[1].

**IC₅₀ & Target**

PRMT1

**In Vitro**

AMI-1 can inhibit the in vitro methylation reactions performed by all five recombinantly active PRMTs (PRMT1, -3, -4, and -6 and Hmt1p)[2].  
AMI-1 not only inhibits type I PRMTs (PRMT1, 3, 4 and 6) but also type II PRMT5[2].
AMI-1 specifically inhibits arginine, but not lysine, methyltransferase activity in vitro and does not compete for the AdoMet binding site[3].

AMI-1 inhibits methylation of GFP-Npl3 and cellular proteins[3].

AMI-1 (0.6-2.4 mM; 48-96 hours) inhibits the cell viability of sarcoma in S180 and U2OS cells in a time-dependent and dose-dependent manner in vitro[4].

AMI-1 (1.2-2.4 mM; 48-72 hours) reduces S180 cell viability through the induction of cell apoptosis[4].

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

Cell Viability Assay[4]

<table>
<thead>
<tr>
<th>Cell Line:</th>
<th>S180 cells, U2OS cells</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration:</td>
<td>0.6 mM, 1.2 mM, 2.4 mM</td>
</tr>
<tr>
<td>Incubation Time:</td>
<td>48 hours, 72 hours, 96 hours</td>
</tr>
<tr>
<td>Result:</td>
<td>Inhibited the cell viability</td>
</tr>
</tbody>
</table>

Apoptosis Analysis[4]

<table>
<thead>
<tr>
<th>Cell Line:</th>
<th>S180 cells</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration:</td>
<td>1.2 mM, 2.4 mM</td>
</tr>
<tr>
<td>Incubation Time:</td>
<td>48 hours, 72 hours</td>
</tr>
<tr>
<td>Result:</td>
<td>Increased the percentages of cells undergoing apoptosis</td>
</tr>
</tbody>
</table>

In Vivo

AMI-1 (0.5 mg; intratumorally; daily; for 7 days) inhibits S180 viability in vivo[4].

AMI-1 (0.5 mg; intratumorally; daily; for 7 days) downregulates PRMT5 but does not regulate the expression of PRMT7 in a tumor xenograft model[4].

AMI-1 (0.5 mg; intratumorally; daily; for 7 days) decreases the levels of H4R3me2s and H3R8me2s in a tumor xenograft model[4].

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

<table>
<thead>
<tr>
<th>Animal Model:</th>
<th>6-7 weeks old male Kunming mice (18-22 g), with S180 cells xenograft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dosage:</td>
<td>0.5 mg</td>
</tr>
<tr>
<td>Administration:</td>
<td>Intratumorally, daily, for 7 days</td>
</tr>
<tr>
<td>Result:</td>
<td>Decreased tumor weight</td>
</tr>
</tbody>
</table>

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REFERENCES


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