**Oxolinic acid**

**Cat. No.:** HY-B1002  
**CAS No.:** 14698-29-4  
**Molecular Formula:** C₁₃H₁₁NO₅  
**Molecular Weight:** 261.23  
**Target:** Bacterial; Antibiotic; DNA/RNA Synthesis  
**Pathway:** Anti-infection; Cell Cycle/DNA Damage  
**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>Preparing Stock Solutions</th>
<th>Solvent</th>
<th>Mass</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DMSO</td>
<td>1 mg</td>
<td>3.8280 mL</td>
<td>19.1402 mL</td>
<td>38.2804 mL</td>
</tr>
<tr>
<td></td>
<td>H₂O</td>
<td>&lt; 0.1 mg/mL (insoluble)</td>
<td>---</td>
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</tr>
</tbody>
</table>

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

**BIOLOGICAL ACTIVITY**

**Description**  
Oxolinic acid is an antibiotic against both Gram-negative and Gram-positive bacteria. Oxolinic acid can be used for the research of acute and chronic urinary tract infections. Oxolinic acid is a DNA/RNA synthesis inhibitor. Oxolinic acid acts as a dopamine uptake inhibitor and stimulants locomotor effect in mice.[1][2][3].

**IC₅₀ & Target**  
Antimicrobial[1]

**In Vitro**  
- Oxolinic acid (2-5 ug/mL) inhibits 115 strains of *E. coli*[1].  
- Oxolinic acid (0-31 ug/mL) inhibits 94% of the 44 strains of *Proteus mirabilis* [1].  
- Oxolinic acid (>5 ug/mL) inhibits all strains of *Strept. Faecalis*[1].  
- Oxolinic acid (>2 ug/mL) causes chromosomal DNA supercoiling to decrease in the two wild-type *E. coli* K-12 strains tested, DM4100 and NI747[2].  
- Oxolinic acid reduces chromosomal DNA supercoiling and inhibits RNA synthesis in *E. coli*[2].

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

Oxolinic acid (32 mg/kg; i.p.) induces hyperactivity in mice\[3\]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

<table>
<thead>
<tr>
<th>Animal Model</th>
<th>Male Swiss albino CD1 mice (22-25 g)[3]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dosage</td>
<td>16 mg/kg, 32 mg/kg, 64 mg/kg, 128 mg/kg</td>
</tr>
<tr>
<td>Administration</td>
<td>Intraperitoneal injection</td>
</tr>
<tr>
<td>Result</td>
<td>Stimulated the horizontal activity of mice, culminated at the 32 mg/kg dose but disappeared at the highest tested dose, 128 mg/kg.</td>
</tr>
</tbody>
</table>

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### REFERENCES

