**Tinidazole**

Cat. No.: HY-B0177  
CAS No.: 19387-91-8  
Molecular Formula: $\text{C}_8\text{H}_{13}\text{N}_3\text{O}_4\text{S}$  
Molecular Weight: 247.27  
Target: Bacterial  
Pathway: Anti-infection  
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 : $\geq 50 \text{ mg/mL (202.21 mM)}$
$\text{H}_2\text{O} : 3.33 \text{ mg/mL (13.47 mM)}$; Need ultrasonic

* "≥" means soluble, but saturation unknown.

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent Concentration</th>
<th>Mass</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 mM</td>
<td></td>
<td>4.0442 mL</td>
<td>20.2208 mL</td>
<td>40.4416 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td></td>
<td>0.8088 mL</td>
<td>4.0442 mL</td>
<td>8.0883 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td></td>
<td>0.4044 mL</td>
<td>2.0221 mL</td>
<td>4.0442 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: $\geq 3.25 \text{ mg/mL (13.14 mM)}$; Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
   Solubility: $\geq 3.25 \text{ mg/mL (13.14 mM)}$; Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil  
   Solubility: $\geq 3.25 \text{ mg/mL (13.14 mM)}$; Clear solution

**BIOLOGICAL ACTIVITY**

**Description**
Tinidazole is a synthesized imidazole derivative used in antiprotozoal treatment with antimicrobial and antibacterial properties. Target: Anti-infective  
Tinidazole is a 5-nitroimidazole active in vitro against a wide variety of anaerobic bacteria and protozoa. Tinidazole is an effective treatment against anaerobic microorganisms based on its pharmacokinetic characteristics (C(max) 51 microg/mL, t(1/2) 12.5 h) and its excellent in vitro activity. Its long half-life...
allows once a day regimens. Tinidazole is as effective as metronidazole in the treatment of infections caused by T. vaginalis, giardiasis and amebiasis and bacterial vaginosis, malaria, odontogenic infections, anaerobic bacterial infections (pelvic inflammatory disease, diabetic foot), surgical prophylaxis (abdominal and hysterectomy) and Helicobacter pylori eradication. Tinidazole has recently been resurrected and FDA approved for trichomoniasis and BV in the USA and is being restudied as an alternative to metronidazole for BV. In vitro antimicrobial activity and pharmacokinetics studies indicate that when compared directly with metronidazole, tinidazole has minor but possibly relevant antimicrobial as well as pharmacokinetic advantages.

REFERENCES
