**Product Name**: Tebipenem Pivoxil  
**Catalog Number**: T6231  
**CAS Number**: 161715-24-8  
**Molecular Formula**: C22H31N3O6S2  
**Molecular Weight**: 497.63

**Description**: Tebipenem pivoxil, an orally activity carbapenem antibiotic, is utilized in treating otolaryngologic and respiratory infections.

**Storage**: 2 years -80°C in solvent; 3 years -20°C powder;

**Solubility**

<table>
<thead>
<tr>
<th>Solvent</th>
<th>Solubility</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMSO</td>
<td>92 mg/mL (184.9 mM)</td>
</tr>
<tr>
<td>Ethanol</td>
<td>81 mg/mL (162.8 mM)</td>
</tr>
<tr>
<td>Water</td>
<td>&lt;1 mg/mL</td>
</tr>
</tbody>
</table>

(< 1 mg/mL refers to the product slightly soluble or insoluble)

**Receptor (IC50)**

Others

**In vitro Activity**

Tebipenem Pivoxil has high intestinal apical membrane permeability due to plural intestinal transport routes, including the uptake transporters such as OATP1A2 and OATP2B1 as well as simple diffusion. [1] Tebipenem Pivoxil is quickly converted to tebipenem (TBPM), an active form of Tebipenem Pivoxil. Tebipenem Pivoxil are absorbed quickly, and the bioavailability is 71.4%, 59.1%, 34.8% and 44.9%, respectively, in mouse, rat, dog and monkey. [2] Tebipenem shows the strongest bactericidal activity as early as 2 h after exposure at two times the MIC. Tebipenem shows higher affinities for PBP 1A and PBP 2B, high-molecular-weight enzymes, and for PBP 3, a low-molecular-weight enzyme, than for PBP 2X. [3] Tebipenem has a potent activity against Neisseria gonorrhoeae; its activity is comparable to it of cefixime that has most potent activity among oral antibiotics. [4]

**In vivo Activity**

Tebipenem Pivoxil results in survival rate of 83%, compared with 25% survival for Amoxicillin and 0% survival for controls in animal model of otitis media. [5] Tebipenem exhibits slow tight-binding inhibition at low micromolar concentrations versus the chromogenic substrate nitrocefin. Tebipenem acyl-enzyme complex remains stable for greater than 90 min and exists as mixture of the covalently bound drug and the bound retro-aldol cleavage product. [6]

**Reference**


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