# Tedizolid

**Cat. No.:** HY-14855

**CAS No.:** 856866-72-3

**Molecular Formula:** $C_{17}H_{15}FN_6O_3$

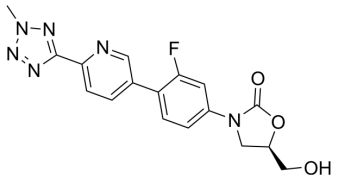
**Molecular Weight:** 370.34

**Target:** Bacterial; Antibiotic

**Pathway:** Anti-infection

**Storage:**

| | | |
|---|---|---|
| Powder | -20°C | 3 years |
| | 4°C | 2 years |
| In solvent | -80°C | 2 years |
| | -20°C | 1 year |



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 10 mg/mL (27.00 mM; Need ultrasonic)

**Preparing Stock Solutions**

| Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 2.7002 mL | 13.5011 mL | 27.0022 mL |
| 5 mM | 0.5400 mL | 2.7002 mL | 5.4004 mL |
| 10 mM | 0.2700 mL | 1.3501 mL | 2.7002 mL |

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: ≥ 1 mg/mL (2.70 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1 mg/mL (2.70 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

Tedizolid (TR 700; Torezolid; DA-7157) is a novel oxazolidinone, acting through inhibition of bacterial protein synthesis by binding to 23S ribosomal RNA (rRNA) of the 50S subunit of the ribosome.

**$IC_{50}$ & Target**

Oxazolidinone

**In Vitro**

Tedizolid (0.25 μg/mL) inhibits all 28 clinical isolates of PRSP, and is 4-fold more potent than linezolid against PRSP[1].

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

**In Vivo**

For mice infected with PSSP type III, the 100% survival rate is achieved with tedizolid phosphate at a minimum total daily dose of 10 mg/kg. Lungs of infected mice treated with tedizolid phosphate show less severe inflammation and edema, as

indicated by the mean scores for inflammation and edema[1].

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## PROTOCOL

**Animal Administration** [1]

To induce a systemic S. pneumoniae infection, male ICR mice (weight, 18 to 20 g) are inoculated intraperitoneally with 1 of 4 PRSP isolates (DR9, DR10, DR11, or DR14) suspended in 10% mucin. The suspension contained sufficient bacteria to kill 100% of untreated control mice. At 1 h postinfection, mice receives a single dose of either tedizolid phosphate or linezolid, and survival is assessed daily for 7 days postinfection. Treatments are delivered both orally and intravenously at each of four doses (40 mg/kg of body weight, 13.33 mg/kg, 4.44 mg/kg, and 1.48 mg/kg), with 8 mice per group defined by dose, delivery method, and infecting strain. The 50% effective dose ($ED_{50}$), i.e., the dose allowing survival of 50% of the infected mice, is calculated for each delivery route using probit analysis.

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

## CUSTOMER VALIDATION

- Nat Commun. 2023 Jun 22;14(1):3705.
- J Antimicrob Chemother. 2021 Jan 19;76(2):292-296.
- Front Microbiol. 2018 Sep 7;9:2095.
- Antimicrob Agents Chemother. 2023 Mar 15;e0165522.
- Antimicrob Agents Chemother. 2023 Jan 23;e0145922.

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## REFERENCES

[1]. Choi S, et al. Activity of Tedizolid Phosphate (TR-701) in Murine Models of Infection with Penicillin-resistant and Penicillin-sensitive Streptococcus pneumoniae. Antimicrob Agents Chemother. 2012 Jun 19.



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