TP-271 is a novel, broad-spectrum fluorocycline in preclinical development at Tetraphase Pharmaceuticals. To explore its potential for use against Gc infection, TP-271 was assessed using a mouse infection model. Methods: The mouse-invasive strain of Gc strain MS11, originally isolated from a case of cervicalitis, was used as the test strain. Female BALB/c mice in the diestrus or anestrus stages of the estrous cycle were treated with 17-estradiol pellets to induce prolonged susceptibility to Gc infection. Mice were intravaginally inoculated with 2 x 10^5 colony forming units (CFU) of Gc to induce a cervicitis infection. Vaginal swabs were collected at baseline and at 3 day intervals from day 1 through day 9 post-infection to monitor bacterial load. Results: Mice were treated with 6 mg/kg (n=7 mice), 12 mg/kg (n=10 mice), or 18 mg/kg (n=10 mice) IP in 0.9% saline, pH 6.5. Ceftriaxone, the positive control, was given at 15 mg/kg (n=9 mice) as a single IP dose. All mice were treated daily from day 1 through day 9 post-infection. The kinetics of infection clearance was similar for all three TP-271 dosages. By the end of the experiment, all mice treated with TP-271 at 6 or 18 mg/kg had cleared infection. By day 7, 5 of 7 mice treated with 12 mg/kg had cleared infection. All TP-271- and CRO-treated mice that cleared infection remained culture-negative for 5 days. The kinetics of infection clearance were similar for all three TP-271 doses, while a single dose of CRO at 15 mg/kg completely cleared the infection in 24 h post-dose. Untreated controls showed stable colonization in the mouse cervical infection model. Conclusions: TP-271 was shown to be active in vitro against Gc. The data suggest that TP-271 has potential for the treatment of Gc infection in women. The kinetics of infection clearance were similar for all three TP-271 doses, which are lower than the dose required for CRO to completely clear the infection. It is suggested that TP-271 could be a potential therapeutic option for the treatment of Gc infection in women.

**References**


**Conclusion**

All 3 dosages of TP-271 (6, 12 and 18 mg/kg) administered over 5 days showed comparable efficacy in clearing Gc infection in this experiment.

After 2 daily doses, ~40-60% of mice receiving TP-271 cleared infection; all TP-271-treated mice, except for one mouse in the 12 mg/kg group, cleared infection after 4-5 daily doses.

The kinetics of infection clearance was similar for all three TP-271 groups, while a single dose of ceftriaxone at 15 mg/kg completely cleared the infection in 24 h post-dose. This observation may reflect a difference in antibiotic mechanism.