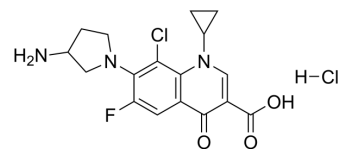


## Clinafloxacin hydrochloride

<b>Cat. No.:</b>	HY-B0536A
<b>CAS No.:</b>	105956-99-8
<b>Molecular Formula:</b>	C <sub>17</sub> H <sub>18</sub> Cl <sub>2</sub> FN <sub>3</sub> O <sub>3</sub>
<b>Molecular Weight:</b>	402.25
<b>Target:</b>	Bacterial; Antibiotic
<b>Pathway:</b>	Anti-infection
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	Clinafloxacin hydrochloride (AM 1091 hydrochloride) is a potent and broad-spectrum fluoroquinolone antibiotic, has inhibitory activity against gram-positive, gram-negative bacteria, and anaerobic pathogens in vitro <sup>[1]</sup> . Clinafloxacin hydrochloride is against DNA gyrase and topoisomerase IV of <i>S. aureus</i> with IC <sub>50</sub> values of 0.92 µg/ml and 1.62 µg/ml, respectively <sup>[2]</sup> .
<b>IC<sub>50</sub> &amp; Target</b>	Quinolone
<b>In Vitro</b>	Clinafloxacin exhibits activity against <i>S. pneumoniae</i> with an MIC of 1µg/ml for the parC-gyrA mutants <sup>[2]</sup> . Clinafloxacin hydrochloride has antibacterial activities against target-altered mutant strains of <i>S. aureus</i> . It against Wild type <i>S. aureus</i> , gyrA mutant <i>S. aureus</i> and gyrA mutant <i>S. aureus</i> with MIC values of 0.016 µg/ml, 0.063 µg/ml and 0.915 µg/ml, respectively <sup>[3]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>In Vivo</b>	Clinafloxacin is very effective for the therapy of penicillin-resistant, ciprofloxacin-susceptible pneumococcal meningitis in the rabbit model. With the CS strain (2349)(Clinafloxacin MIC=0.12 µg/ml), at a dose of 10 mg/kg and 20 mg/kg per day Clinafloxacin achieves an initial reduction at 6 hr. Both are bactericidal at this point but presents regrowth at 24 hr, and the final reduction at 24 hr in mean log cfu/ml is 22.30 and 23.83, respectively. However, With the CR strain (4371)(Clinafloxacin MIC=0.5 µg/ml), Clinafloxacin even at 20 mg/kg per day does not decrease bacterial titers at any time point in this rabbit model of meningitis [3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### REFERENCES

- [1]. M Takei, et al. Target preference of 15 quinolones against *Staphylococcus aureus*, based on antibacterial activities and target inhibition. *Antimicrob Agents Chemother.* 2001 Dec;45(12):3544-7.
- [2]. Randa H Abdelkreem, et al. DNA Gyrase and Topoisomerase IV Mutations and their effect on Quinolones Resistant *Proteus mirabilis* among UTIs Patients. *Pak J Med Sci.* Sep-Oct 2020;36(6):1234-1240.
- [3]. A Domenech, et al. Experimental study of clinafloxacin alone and in combination in the treatment of ciprofloxacin-susceptible and -resistant pneumococcal meningitis. *Microb Drug Resist.* 2003;9 Suppl 1:S53-9.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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