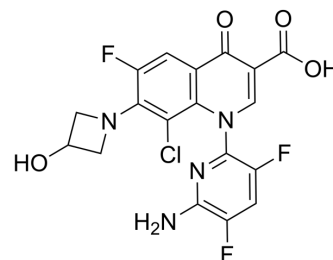


## Delafloxacin

<b>Cat. No.:</b>	HY-14814		
<b>CAS No.:</b>	189279-58-1		
<b>Molecular Formula:</b>	C <sub>18</sub> H <sub>12</sub> ClF <sub>3</sub> N <sub>4</sub> O <sub>4</sub>		
<b>Molecular Weight:</b>	440.76		
<b>Target:</b>	Bacterial; Antibiotic		
<b>Pathway:</b>	Anti-infection		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : 100 mg/mL (226.88 mM; Need ultrasonic)

Concentration	Mass		
	1 mg	5 mg	10 mg
1 mM	2.2688 mL	11.3440 mL	22.6881 mL
5 mM	0.4538 mL	2.2688 mL	4.5376 mL
10 mM	0.2269 mL	1.1344 mL	2.2688 mL

Please refer to the solubility information to select the appropriate solvent.

### BIOLOGICAL ACTIVITY

#### Description

Delafloxacin (RX-3341; WQ-3034; ABT492) is a broad-spectrum fluoroquinolone antibiotic. Delafloxacin has a broad spectrum of activity that includes drug-resistant *Staphylococcus aureus*, *Streptococcus pneumoniae*, and *Klebsiella pneumoniae*<sup>[1]</sup>.

#### IC<sub>50</sub> & Target

Quinolone

#### In Vivo

Delafloxacin (the total daily doses vary from 0.156 to 640 mg/kg/24 h, subcutaneous injection) is highly effective against *S. aureus*. Against all four strains are observed a decrease of 1.5 to 2.2 log<sub>10</sub> CFU in organism burden from untreated controls at even the lowest dose studied, and for two strains (MW2 and R2527) there is net bactericidal activity at the lowest dose. At the maximal doses studied, there is a >4-log<sub>10</sub> kill from initial burden for all *S. aureus* strains<sup>[1]</sup>.

Delafloxacin (2.5, 10, 40, and 160 mg/kg; subcutaneous injection, 24 h) has moderate terminal elimination half-life (t<sub>1/2</sub>=0.68 h, 0.79 h, 0.69 h and 1.0 h for 2.5 mg/kg, 10 mg/kg, 40 mg/kg, and 160 mg/kg, respectively)<sup>[1]</sup>.

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

Animal Model:	Mice with a neutropenic murine lung infection model (four <i>S. aureus</i> , four <i>S. pneumoniae</i> , and four <i>K. pneumoniae</i> strains) <sup>[1]</sup>
Dosage:	The total daily doses vary from 0.156 to 640 mg/kg/24 h
Administration:	0.03 to 160 mg/kg are administered every 6 h (q6h) to infected mice by subcutaneous injection
Result:	Inhibited <i>S. aureus</i> strains ATCC 29213, ATCC 33591, MW2, R2527 with MICs of 0.008, 0.008, 0.004, and 0.004 mg/L, respectively. Inhibited <i>S. pneumoniae</i> strains ATCC 10813, ATCC 49619, 145, and 1329 with MICs of 0.03, 0.125, 0.016, and 0.016 mg/L, respectively. Inhibited <i>K. pneumoniae</i> strains ATCC 43816, 4105, 4110, and 81-1260A with MICs of 0.06, 1, 0.5, and 0.06 mg/L, respectively.
Animal Model:	Neutropenic mice <sup>[1]</sup>
Dosage:	2.5, 10, 40, and 160 mg/kg; 0.2 mL
Administration:	Subcutaneous injection; 24 h
Result:	The maximum drug concentrations ( $C_{max}$ ) concentrations ranged from 2 to 71 mg/L. $AUC_{0-\infty}$ values ranged from 2.8 to 152 mg•h/L and were linear across the 2.5- to 160-mg dosing range. The elimination half-life ( $t_{1/2}$ ) ranged from 0.7 to 1 h.

## CUSTOMER VALIDATION

- Nat Microbiol. 2023 Mar;8(3):410-423.
- Antimicrob Agents Chemother. 2022 Nov 30;e0092122.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## REFERENCES

[1]. Lepak AJ, et al. In Vivo Pharmacodynamic Target Assessment of Delafloxacin against *Staphylococcus aureus*, *Streptococcus pneumoniae*, and *Klebsiella pneumoniae* in a Murine Lung Infection Model. *Antimicrob Agents Chemother.* 2016 Jul 22;60(8):4764-9.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA