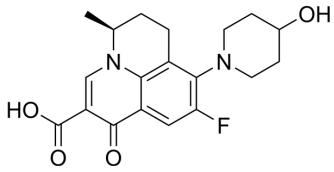
Levonadifloxacin

Cat. No.:	HY-14926
CAS No.:	154357-42-3
Molecular Formula:	$C_{19}H_{21}FN_2O_4$
Molecular Weight:	360.38
Target:	Antibiotic; Bacterial
Pathway:	Anti-infection
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (346.86 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.7748 mL	13.8742 mL	27.7485 mL
	5 mM	0.5550 mL	2.7748 mL	5.5497 mL
	10 mM	0.2775 mL	1.3874 mL	2.7748 mL

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

BIOLOGICAL ACTIVITY

Description

Levonadifloxacin ((S)-(-)-Nadifloxacin; WCK 771) is a broad-spectrum anti-staphylococcal agent. Levonadifloxacin shows antibacterial activity against Methicillin (HY-121544)-susceptible Staphylococcus aureus (MSSA) and Methicillin-resistant S. aureus (MRSA) strains, with a reduction of which phagocytized in THP-1 monocytes[1].

In Vitro

Levonadifloxacin (32 μg/mL; 24 h) achieves a 90-99% intracellular reduction of MSSA and MRSA strains phagocytized in THP-1 monocytes with MICs of 0.03 μg/mL and 15.0 ng/mL[1].

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

In Vivo

Levonadifloxacin (12.5-400 mg/kg; s.c.; single dose) shows efficacy in vivo against Staphylococcus aureus in a Neutropenic Murine Lung Infection Model[2].

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

Animal Model:	Male/Female Swiss Albino mice (25-28 g) for plasma pharmacokinetic analyses[2]

Dosage:	12.5, 25, 50, 100, 200, 300 and 400 mg/kg
Administration:	Subcutaneous injection; single dose; collected samples at 10 time points/dose (0.25, 0.5, 1, 2, 4, 6, 8, 10, 58 12 and 24 h post dose)
Result:	

Dose (mg/kg)	C_{max} (mg/L)	$AUC_{0\text{-}24\ h}$ (mg·h/L)	$T_{1/2}$ (h)
12.5	4.37	7.30	1.79
25	8.71	15.75	1.48
50	19.21	33.36	1.48
100	38.65	70.86	1.76
200	77.29	145.48	1.69
300	92.46	286.19	2.44
400	115.16	393.52	1.74

REFERENCES

[1]. Dubois J, et al. Levonadifloxacin (WCK 771) exerts potent intracellular activity against Staphylococcus aureus in THP-1 monocytes at clinically relevant concentrations. J Med Microbiol. 2019 Dec;68(12):1716-1722.

[2]. Bhagwat SS, et al. In Vivo Pharmacokinetic/Pharmacodynamic Targets of Levonadifloxacin against Staphylococcus aureus in a Neutropenic Murine Lung Infection Model. Antimicrob Agents Chemother. 2019 Jul 25;63(8):e00909-19.

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