

Avibactam (free acid)

Catalog No: tcsc0593



Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg



Specifications

CAS No:

1192500-31-4

Formula:

$C_7H_{11}N_3O_6S$

Pathway:

Anti-infection

Target:

Bacterial

Purity / Grade:

>98%

Solubility:

10 mM in DMSO

Alternative Names:

NXL-104 (free acid)

Observed Molecular Weight:

265.24

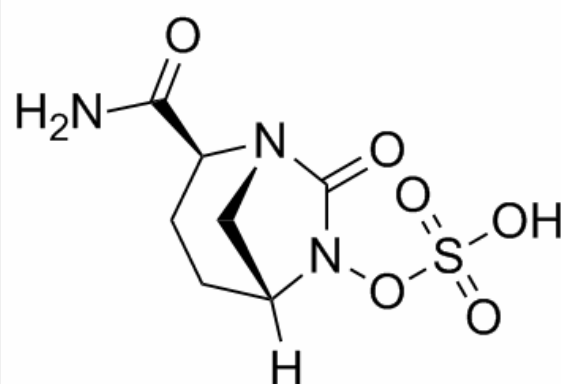
Product Description

Avibactam (NXL-104) free acid is a covalent, reversible **β-lactamase** inhibitor, inhibits β-lactamase **TEM-1** and **CTX-M-15** with **IC₅₀** of 8 nM and 5 nM, respectively.

IC50 & Target: IC50: 8 nM (TEM-1), 5 nM (CTX-M-15)^[1]

In Vitro: Avibactam (NXL104) is a molecule with little antibacterial activity, that inhibits class A and C β-lactamases. Avibactam (NXL104) inactivates most important β-lactamases except metallo types and *Acinetobacter* OXA carbapenemases^[2].

In Vivo: Avibactam (NXL104) sodium displays a slow return of activity with an off-rate of $0.045 \pm 0.022 \text{ min}^{-1}$, which converts to a residence time half-life ($t_{1/2}$) of $16 \pm 8 \text{ min}$. The measured off-rate for Avibactam (NXL104) suggests that slow deacylation through hydrolysis or reversibility is occurring, and it is in contrast to previously reported extremely long $t_{1/2}$ values of >1 or >7 d for Avibactam (NXL104) inhibition of TEM-1^[1]. Avibactam is a new promising β-lactamase inhibitor, to overcome resistance caused by β-lactamases. Mice are infected with $\text{ca.}10^6 \text{ CFU}$ of *Pseudomonas aeruginosa* intramuscularly into the thigh or intranasally to cause pneumonia and are given 8 different (single) subcutaneous doses of Ceftazidime and Avibactam (NXL104) in various combined concentrations, ranging from 1 to 128 mg/kg of body weight in 2-fold increases. The mean estimated half-life in plasma of Ceftazidime in the terminal phase is 0.28 h (SD, 0.02 h), and that of Avibactam is 0.24 h (SD, 0.04 h). Volumes of distribution are 0.80 liters/kg (SD, 0.14 liters/kg) and 1.18 liters/kg (SD, 0.34 liters/kg), respectively^[3].



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