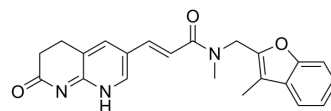


AFN-1252

Cat. No.:	HY-16911		
CAS No.:	620175-39-5		
Molecular Formula:	C ₂₂ H ₂₁ N ₃ O ₃		
Molecular Weight:	375.42		
Target:	Bacterial; Antibiotic		
Pathway:	Anti-infection		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 5.8 mg/mL (15.45 mM; Need ultrasonic)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	2.6637 mL	13.3184 mL	26.6368 mL
	5 mM	0.5327 mL	2.6637 mL	5.3274 mL
	10 mM	0.2664 mL	1.3318 mL	2.6637 mL

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

BIOLOGICAL ACTIVITY

Description

AFN-1252 is an orally active and selective inhibitor of FabI, an essential enzyme in fatty acid biosynthesis in *Staphylococcus* spp. AFN-1252 exhibits exquisite and highly selective activity against *Staphylococcus* spp. AFN-1252 exhibits typical MIC₉₀ values of 0.015 µg/ml against diverse clinical isolates of *S. aureus*. AFN-1252 is efficacious in a mouse model of septicemia providing 100% protection from an otherwise lethal peritoneal infection of *S. aureus* Smith^{[1][2]}.

In Vitro

AFN-1252 is extremely potent against clinical isolates of *S. aureus* (MIC₉₀, 0.015 µg/ml) and coagulase-negative staphylococci (MIC₉₀, 0.12 µg/ml)^[2]
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

AFN-1252 (0.03-3 mg/kg; oral gavage; single dose) is efficacious in a mouse model of septicemia, with 100% survival obtained with a single oral dose of 1 mg/kg^[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Female 5- to 6-week-old CD-1 mice (18 to 22 g) with <i>S. aureus</i> Smith bacterial inoculum ^[2]
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Dosage:	0.03, 0.1, 0.3, 1, 3 mg/kg
Administration:	Oral gavage; single dose
Result:	Was efficacious in a mouse model of septicemia, with 100% survival obtained with a single oral dose of 1 mg/kg. The calculated ED50s (95% confidence limits) were 0.15 (0.11 to 0.21) mg/kg.

CUSTOMER VALIDATION

- Nat Commun. 2016 Oct 5;7:12944.
- Cell Rep. 2019 Dec 17;29(12):3974-3982.e4.
- PLoS Pathog. 2020 Oct 30;16(10):e1008529.
- Antimicrob Agents Chemother. 2019 Mar 27;63(4):e02105-18.
- bioRxiv. 2023 Jun 30.

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REFERENCES

- [1]. Nachum Kaplan, et al. In vitro activity (MICs and rate of kill) of AFN-1252, a novel FabI inhibitor, in the presence of serum and in combination with other antibiotics. J Chemother. 2013 Feb;25(1):18-25.
- [2]. Nachum Kaplan, et al. Mode of action, in vitro activity, and in vivo efficacy of AFN-1252, a selective antistaphylococcal FabI inhibitor. Antimicrob Agents Chemother. 2012 Nov;56(11):5865-74.

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

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