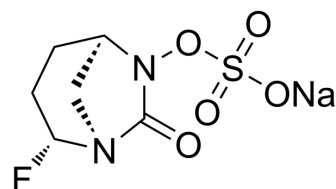


ANT3310 sodium

Cat. No.:	HY-147349
CAS No.:	2410688-61-6
Molecular Formula:	C ₆ H ₈ FN ₂ NaO ₅ S
Molecular Weight:	262.19
Target:	Bacterial; Beta-lactamase
Pathway:	Anti-infection
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro	DMSO : 50 mg/mL (190.70 mM; ultrasonic and warming and heat to 60°C)					
	Preparing Stock Solutions	<div><div>Solvent</div><div>Concentration</div></div>	Mass	1 mg	5 mg	10 mg
		1 mM		3.8140 mL	19.0701 mL	38.1403 mL
		5 mM		0.7628 mL	3.8140 mL	7.6281 mL
		10 mM		0.3814 mL	1.9070 mL	3.8140 mL
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 1.67 mg/mL (6.37 mM); Clear solution					
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 1.67 mg/mL (6.37 mM); Clear solution					
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 1.67 mg/mL (6.37 mM); Clear solution					

BIOLOGICAL ACTIVITY

Description	ANT3310 sodium is a broad-spectrum covalent Serine β-Lactamase inhibitor, with IC ₅₀ values ranging from 1 nM to 175 nM (a panel of Serine β-Lactamase). ANT3310 sodium potentiates activity of β-lactam antibiotics against Carbapenem-Resistant Enterobacterales (CRE) and Acinetobacter baumannii (CRAB). ANT3310 sodium can be used in the research of bacterial infection ^{[1][2]} .
In Vitro	ANT3310 sodium (Compound 21, 0.006 to 3 000 nM, 10 min) inhibits a series of Serine β-Lactamase (AmpC, CTX-M-15, TEM-1, OXA-48, OXA-23, and KPC-2), with IC ₅₀ values ranging from 1 nM to 175 nM ^[1] . ANT3310 sodium shows a low in vitro cytotoxicity (IC ₅₀ : > 100 μM) in HepG2 cell, cardiotoxicity (inhibition of the hERG

	potassium ion channel), and genotoxicity (Ames test) ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.								
In Vivo	<p>ANT3310 sodium (intravenous injection, 25-100 mg/kg, at 1, 3, 5, and 7 h postinfection) reduces bacterial burdens in murine thigh infection model^[1].</p> <p>ANT3310 sodium (intravenous injection, 1 mg/kg, Male Swiss albino mice) shows a $T_{1/2}$ value of 0.64 h, AUC value of 412 ng•h/mL, and Cl value of 40 mL/min/kg (pharmacokinetic assay)^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table> <tr> <td>Animal Model:</td><td>Murine thigh infection model^[1]</td></tr> <tr> <td>Dosage:</td><td>25, 50, and 100 mg/kg</td></tr> <tr> <td>Administration:</td><td>Intravenous injection, at 1, 3, 5, and 7 h postinfection</td></tr> <tr> <td>Result:</td><td>Reduced bacterial burdens (colony forming units, CFU) in a dose-dependent manner to levels below that of the initial starting inoculum at the highest dose, when treated with the combination of MEM.</td></tr> </table>	Animal Model:	Murine thigh infection model ^[1]	Dosage:	25, 50, and 100 mg/kg	Administration:	Intravenous injection, at 1, 3, 5, and 7 h postinfection	Result:	Reduced bacterial burdens (colony forming units, CFU) in a dose-dependent manner to levels below that of the initial starting inoculum at the highest dose, when treated with the combination of MEM.
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REFERENCES

[1]. David T Davies, et al. Discovery of ANT3310, a Novel Broad-Spectrum Serine β -Lactamase Inhibitor of the Diazabicyclooctane Class, Which Strongly Potentiates Meropenem Activity against Carbapenem-Resistant Enterobacterales and Acinetobacter baumannii. J Med Chem. 2020 Dec 24;63(24):15802-15820.

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