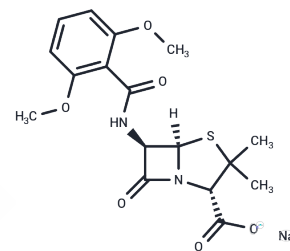


## Methicillin sodium salt

## Chemical Properties

CAS No. :	132-92-3
Formula:	C <sub>17</sub> H <sub>19</sub> N <sub>2</sub> NaO <sub>6</sub> S
Molecular Weight:	402.40
Storage:	Keep away from direct sunlight, Keep away from moisture Powder: -20°C for 3 years   In solvent: -80°C for 1 year <i>Actual storage temperature shall be subject to the COA.</i>



## Biological Description

Description	Methicillin sodium salt (Meticillin sodium) is a $\beta$ -lactam antibiotic (natural product), a penicillin-binding protein inhibitor (anti-Staphylococcus aureus MIC=2.1 $\mu$ g/mL), used for research on Staphylococcus aureus infections and inflammation-related studies.
Targets(IC50)	Antibacterial, Antibiotic
In vitro	<b>Methods:</b> Intracellular Staphylococcus aureus was treated with Methicillin sodium salt (100 $\mu$ g/mL) for 18 hours, and bacterial survival was detected. <b>Results:</b> Methicillin sodium salt killed intracellular Staphylococcus aureus after 18 hours of treatment. [1]
In vivo	<b>Methods:</b> To study the in vivo antibacterial activity of Methicillin sodium salt against Enterococcus, infected animal models were intramuscularly injected with Methicillin sodium salt (42.5 and 85 mg/kg) four times daily for 21 consecutive days or until animal death, and the clearance of Enterococcus in leukocytes was detected. <b>Results:</b> Methicillin sodium salt administration effectively combated Enterococcus in leukocytes. [1] <b>Methods:</b> To evaluate the protective effect of Methicillin sodium salt on infected mice, infected mice were given a single intraperitoneal or subcutaneous injection of Methicillin sodium salt (400 mg/kg), and mouse survival was observed. <b>Results:</b> Compared with the control group, a single dose of Methicillin sodium salt improved the survival rate of infected mice and prevented death in infected mice. [2]

## Solubility Information

Solubility	DMSO: 85 mg/mL (211.23 mM), Sonication is recommended. ( $< 1$ mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 3.3 mg/mL (8.2 mM), Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	2.4851 mL	12.4254 mL	24.8509 mL
5 mM	0.497 mL	2.4851 mL	4.9702 mL
10 mM	0.2485 mL	1.2425 mL	2.4851 mL
50 mM	0.0497 mL	0.2485 mL	0.497 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Lincoln LJ, et al. Penicillinase-resistant penicillins plus gentamicin in experimental enterococcal endocarditis. *Antimicrob Agents Chemother.* 1977 Oct;12(4):484-9.

Mandell GL, Vest TK. Killing of intraleukocytic *Staphylococcus aureus* by rifampin: in-vitro and in-vivo studies. *J Infect Dis.* 1972 May;125(5):486-90.

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