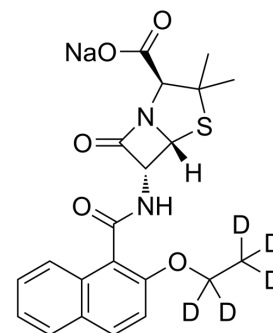


## Nafcillin-d<sub>5</sub> sodium

<b>Cat. No.:</b>	HY-B0555BS
<b>CAS No.:</b>	1356354-25-0
<b>Molecular Formula:</b>	C <sub>21</sub> H <sub>16</sub> D <sub>5</sub> N <sub>2</sub> NaO <sub>5</sub> S
<b>Molecular Weight:</b>	441.49
<b>Target:</b>	Antibiotic; Isotope-Labeled Compounds; Beta-lactamase
<b>Pathway:</b>	Anti-infection; Others
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	Nafcillin-d <sub>5</sub> (sodium) is the deuterium labeled Nafcillin sodium. Nafcillin sodium, an antibiotic, is a reversible inhibitor of β-lactamase. Nafcillin sodium can be used for the research of staphylococcal infections[1][2].
<b>In Vitro</b>	Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### REFERENCES

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother.* 2019;53(2):211-216.
- [2]. Tan AK, et al. Identification of the site of covalent attachment of nafcillin, a reversible suicide inhibitor of beta-lactamase. *Biochem J.* 1992 Jan 1;281 ( Pt 1)(Pt 1):191-6.
- [3]. Palmer DL, et al. Bacterial wound colonization after broad-spectrum versus narrow-spectrum antibiotics. *Ann Thorac Surg.* 1995 Mar;59(3):626-31.
- [4]. Lawrence I. Mortin, et al. Rapid Bactericidal Activity of Daptomycin against Methicillin-Resistant and Methicillin-Susceptible *Staphylococcus aureus* Peritonitis in Mice as Measured with Bioluminescent Bacteria. *Antimicrob Agents Chemother.* 2007 May; 51(5): 1787-1794.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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