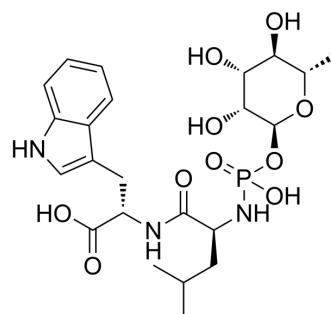


## Phosphoramidon

<b>Cat. No.:</b>	HY-N2021
<b>CAS No.:</b>	36357-77-4
<b>Molecular Formula:</b>	C <sub>23</sub> H <sub>34</sub> N <sub>3</sub> O <sub>10</sub> P
<b>Molecular Weight:</b>	543.5
<b>Target:</b>	MMP; Angiotensin-converting Enzyme (ACE); Neprilysin; Endogenous Metabolite
<b>Pathway:</b>	Metabolic Enzyme/Protease
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	Phosphoramidon, a microbial metabolite, is a specific metalloprotease thermolysin inhibitor with an IC <sub>50</sub> of 0.4 µg/mL. Phosphoramidon also inhibits endothelin-converting enzyme (ECE), neutral endopeptidase (NEP), and angiotensin-converting enzyme (ACE) with IC <sub>50</sub> values of 3.5, 0.034, and 78 µM, respectively <sup>[1][2][3]</sup> .								
<b>IC<sub>50</sub> &amp; Target</b>	Microbial Metabolite								
<b>In Vitro</b>	Phosphoramidon (1-500 µM; 30 min) inhibits ET-converting enzyme (ECE) activity in a dose-dependent manner in solubilized rabbit lung membranes <sup>[5]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.								
<b>In Vivo</b>	Phosphoramidon (0.25 mg/kg per min; i.v.) suppresses the hypertensive effect of big endothelin-1 in rats <sup>[4]</sup> . Phosphoramidon (1-30 mg/kg; i.v.; once) blocks the pressor activity of porcine big endothelin-1-(1-39) in rats <sup>[5]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.								
	<table border="1"> <tr> <td>Animal Model:</td> <td>Male Sprague-Dawley rats<sup>[4]</sup></td> </tr> <tr> <td>Dosage:</td> <td>0.25 mg/kg per min</td> </tr> <tr> <td>Administration:</td> <td>Intravenous injection</td> </tr> <tr> <td>Result:</td> <td>Markedly suppressed the hypertensive effect of big endothelin-1.</td> </tr> </table>	Animal Model:	Male Sprague-Dawley rats <sup>[4]</sup>	Dosage:	0.25 mg/kg per min	Administration:	Intravenous injection	Result:	Markedly suppressed the hypertensive effect of big endothelin-1.
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Result:	Markedly suppressed the hypertensive effect of big endothelin-1.								

### REFERENCES

- [1]. Umezawa S, et al. A new microbial metabolite phosphoramidon (isolation and structure). *Tetrahedron Letters*, 1972, 13(1): 97-100.
- [2]. Suda H, et al. A thermolysin inhibitor produced by actinomycetes: phosphoramidon. *The Journal of antibiotics*, 1973, 26(10): 621-623.
- [3]. Kukkola PJ, et al. Differential structure-activity relationships of phosphoramidon analogues for inhibition of three metalloproteases: endothelin-converting enzyme, neutral endopeptidase, and angiotensin-converting enzyme. *J Cardiovasc Pharmacol*. 1995;26Suppl 3:S65-8.
- [4]. Matsumura Y, et al. Phosphoramidon, a metalloproteinase inhibitor, suppresses the hypertensive effect of big endothelin-1. *Eur J Pharmacol*. 1990 Aug 21;185(1):103-6.

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[5]. McMahon EG, et al. Phosphoramidon blocks the pressor activity of porcine big endothelin-1-(1-39) in vivo and conversion of big endothelin-1-(1-39) to endothelin-1-(1-21) in vitro. Proc Natl Acad Sci U S A. 1991 Feb 1;88(3):703-7.

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

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