

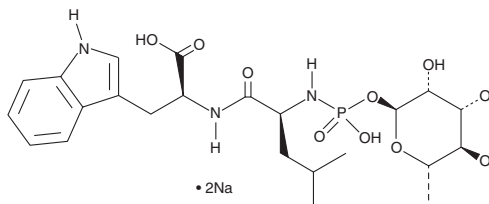
# PRODUCT INFORMATION



## Phosphoramidon (sodium salt)

Item No. 15113

**CAS Registry No.:** 164204-38-0  
**Formal Name:** N-[N-[[[6-deoxy- $\alpha$ -L-mannopyranosyl)oxy]hydroxyphosphiny]-L-leucyl]-L-tryptophan, disodium salt  
**MF:**  $C_{23}H_{34}N_3O_{10}P \cdot 2Na$   
**FW:** 589.5  
**Purity:**  $\geq 98\%$   
**UV/Vis.:**  $\lambda_{max}$ : 223, 283 nm  
**Supplied as:** A crystalline solid  
**Storage:**  $-20^{\circ}C$   
**Stability:**  $\geq 4$  years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Phosphoramidon (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the phosphoramidon (sodium salt) in the solvent of choice, which should be purged with an inert gas. Phosphoramidon (sodium salt) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of phosphoramidon (sodium salt) in these solvents is approximately 14 and 10 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of phosphoramidon (sodium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of phosphoramidon (sodium salt) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Neprilysin (NEP) and NEP2 are membrane-bound zinc metalloproteases.<sup>1,2</sup> Phosphoramidon is a natural and potent inhibitor of NEP and NEP2, with  $K_i$  values of 2 nM for both enzymes.<sup>1,3</sup> It is also a weak inhibitor of the related zinc metalloprotease endothelin-converting enzyme ( $K_i = 3.5 \mu M$ ).<sup>4</sup> Phosphoramidon has little or no effect on a variety of other proteases, including trypsin, papain, chymotrypsin, pepsin, and angiotensin-converting enzyme.<sup>3</sup>

### References

1. Rose, C., Voisin, S., Gros, C., *et al.* Cell-specific activity of neprilysin 2 isoforms and enzymic specificity compared with neprilysin. *Biochem. J.* **363**(3), 697-705 (2002).
2. Whyteside, A.R. and Turner, A.J. Human neprilysin-2 (NEP2) and NEP display distinct subcellular localisations and substrate preferences. *FEBS Lett.* **582**(16), 2382-2386 (2008).
3. Suda, H., Aoyagi, T., Takeuchi, T., *et al.* A thermolysin inhibitor produced by actinomycetes: Phosphoramidon. *J. Antibiot. (Tokyo)* **26**(10), 621-623 (1973).
4. Turner, A.J. and Murphy, L.J. Molecular pharmacology of endothelin converting enzymes. *Biochem. Pharmacol.* **51**(2), 91-102 (1996).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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