

# PRODUCT INFORMATION



## PPACK (hydrochloride)

Item No. 37489

CAS Registry No.: 82188-90-7

Formal Name: D-phenylalanyl-N-[(1S)-4-[(aminoiminomethyl)amino]-1-(chloroacetyl)butyl]-L-prolinamide, dihydrochloride

Synonyms: Pebac, D-Phenylalanyl-prolyl-arginyl Chloromethyl Ketone, D-Phe-Pro-Arg-CH<sub>2</sub>Cl

Peptide Sequence: fPR-CH<sub>2</sub>Cl

MF: C<sub>21</sub>H<sub>31</sub>ClN<sub>6</sub>O<sub>3</sub> • 2HCl

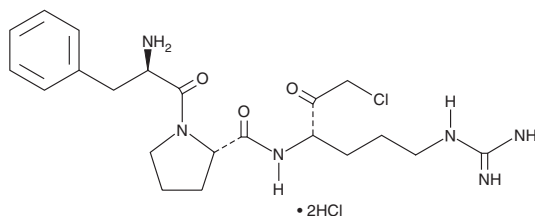
FW: 523.9

Purity: ≥95%

Supplied as: A solid

Storage: -20°C

Stability: ≥4 years



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

### Laboratory Procedures

PPACK (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the PPACK (hydrochloride) in the solvent of choice. PPACK (hydrochloride) is soluble in DMSO, which should be purged with an inert gas. It is also soluble in water. We do not recommend storing the aqueous solution for more than one day.

### Description

PPACK is a synthetic peptide derivative that irreversibly and specifically inhibits thrombin-mediated platelet activation by binding with high affinity to the active site of thrombin ( $K_i = 0.24$  nM).<sup>1-3</sup> It has been used as an anticoagulant (100 μM) and to study thrombin-mediated fibrin deposition, angiogenesis, and proinflammatory processes.<sup>4,5</sup>

### References

1. Hanson, S.R. and Harker, L.A. Interruption of acute platelet-dependent thrombosis by the synthetic antithrombin D-phenylalanyl-L-prolyl-L-arginyl chloromethyl ketone. *Proc. Natl. Acad. Sci. USA* **85**(9), 3184-3488 (1988).
2. Bode, W., Turk, D., and Karshikov, A. The refined 1.9-Å x-ray crystal structure of D-Phe-Pro-Arg chloromethylketone-inhibited human α-thrombin: Structure analysis, overall structure, electrostatic properties, detailed active-site geometry, and structure-function relationships. *Protein Sci.* **1**(4), 426-471 (1992).
3. Kovach, I.M., Kelley, P., Eddy, C., et al. Proton bridging in the interactions of thrombin with small inhibitors. *Biochemistry* **48**(30), 7296-7304 (2009).
4. Liu, J.F., Hou, S.M., Tsai, C.H., et al. Thrombin induces heme oxygenase-1 expression in human synovial fibroblasts through protease-activated receptor signaling pathways. *Arthritis Res. Ther.* **14**(2), R91 (2012).
5. Lyon, M.E., Fine, J.S., Henderson, P.J., et al. D-phenylalanyl-L-prolyl-L-arginine chloromethyl ketone (PPACK): Alternative anticoagulant to heparin salts for blood gas and electrolyte specimens. *Clin. Chem.* **41**(7), 1038-1041 (1995).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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